THE VISION

Plasdwr will challenge existing ways of working and thinking to push the boundaries of residential led design quality to create highly desirable new districts for North West Cardiff. The aim is to achieve a high quality development with strong identity, activity and ‘sense of place’. Plasdwr will join other the other desirable Cardiff districts as a place people will want to live and as a destination worth visiting.

The new places will be designed to be inclusive of all users and encourage environmental sustainable travel choice and a transportation modal shift. The districts will become cycling focused and provide the safest and best options for cycling within the Cardiff urban area. Cars have their place in Plasdwr but the rediscovered importance of walking, cycling and alternative transportation modes will be the priority.

MOVEMENT OBJECTIVES

The following elements are promoted to ensure options are available for transportation modal shift and there is environmentally friendly sustainable travel choice:

• Dedicated cycling routes;
• School cycling trains and scoot to school strategies;
• Clear and attractive pedestrian and cycling routes;
• Cycle hire and car clubs;
• Future allowance for Rapid Transit System;
• Bus gates and bus priority;
• Bus has clear and visible advantage over other vehicle movements;
• Direct walkable distances to bus stops;
• Design to change the character of Llantrisant Road and break down this route as an existing barrier;
• Green setting at key signal controlled junctions to give priority to the non-motorised user;
• Direct walkable distances to facilities;
• Footpaths and cyclepaths to be continuous cross junctions without breaks to give priority to the pedestrian or cyclist;
• Development areas designed to put the pedestrian and cyclist first;
• Accessible local education and facilities;
• Street design that creates driver awareness; and
• Appropriate parking standards.
ENVIRONMENT OBJECTIVES

The following will be provided to create a green environment that provides for ecological and attractive recreational spaces:

• Design to sympathetically integrate the existing landscape, biodiversity and historic features into the place;
• Existing buildings and features become cores of different neighbourhoods;
• Streets to be designed as places where parents feel safe letting their children play;
• Variety of multi functional public green spaces;
• Different types of public spaces;
• Presence of water through innovative and creative management of surface water solutions;
• Good internal links through and between greenspaces to strengthen cohesion in the new and existing community;
• Relationship between topography and pedestrian/cycle movement;
• Topography to create places and landmarks;
• Utilise existing woodlands and divide their uses so that the highest value have limited public access and others have open-access and provision of amenity and play;
• Protect the St. Fagan’s Lowlands and Ely Valley Special Landscape Area (SLA);
• Recreate street design so that they become places where people stop for conversation and children play.

CHARACTER OBJECTIVES

The following will be created to ensure the new districts are distinctive, unique and memorable:

• Strong design and character with bespoke layout and architecture;
• Creation of different character areas and neighbourhoods;
• Differing densities from village edge to denser urban core;
• Use of precedents and existing context to create change in the urban grain of places, the use of built form, spatial enclosure and the relationship between built and un-built spaces;
• Desired building and open space arrangements to dictate the development layout;
• To create buildings and spaces that draw upon the positive built characteristics of the area.
“The relationship between all elements of the natural and built environment. To create sustainable development, design must go beyond aesthetics and include the social, environmental and economic aspects of the development, including its construction, operation and management, and its relationship to its surroundings.”

PLANNING POLICY WALES (JULY 2014)
CONTENTS

1. INTRODUCTION
2. ASSESSMENT
3. DEVELOPING THE VISION; DESIGN PRINCIPLES & DESIGN EVOLUTION
4. DESIGN PROPOSALS
5. SUMMARY

Note: This document is designed to be viewed as A3 spreads
INTRODUCTION

01
INTRODUCTION

PURPOSE OF THE STATEMENT

1.1 This Design and Access Statement has been prepared by Pegasus Urban Design (part of Pegasus Group) with input from Scott Brownrigg on behalf of Redrow Homes Limited; Trustees of St. Fagan’s No 1&2 Trust and Trustees of St. Fagan’s No 3 Trust (the applicant).

1.2 The Outline Planning Application seeks consent for the following development:

"OUTLINE PLANNING APPLICATION WITH ALL MATTERS RESERVED APART FROM STRATEGIC ACCESS JUNCTIONS FOR RESIDENTIAL-LED MIXED USE DEVELOPMENT, TO BE DEVELOPED IN PHASES, INCLUDING: PREPARATORY WORKS AS NECESSARY INCLUDING DEMOLITION AND RE-GRADING OF SITE LEVELS; UP TO 5,770 RESIDENTIAL UNITS (USE CLASS C3, INCLUDING AFFORDABLE HOMES); UP TO 15,500 SQ M OF EMPLOYMENT USE (USE CLASSES B1A, B1B AND B1C); 3 NO. LOCAL CENTRES PROVIDING CONVENIENCE SHOPS AND FACILITIES/SERVICES (UP TO 7,900 SQ M OF A CLASS USES, AS WELL AS A PUBLIC HOUSE, COMMUNITY HALL AND HEALTHCARE FACILITIES) AND 1 NO. DISTRICT CENTRE (UP TO 12,000 SQ M INCLUDING USES IN USE CLASSES A1-A3, B1, C1, D1, D2 AND INCLUDING A FOOD STORE (UP TO 5,000 SQ M GROSS) WITH ASSOCIATED PARKING); PROVISION FOR 3 NO. PRIMARY SCHOOLS AND 1 NO. SECONDARY SCHOOL; HEALTHCARE FACILITIES, OPEN SPACE INCLUDING ALLOTMENTS; PARKS, NATURAL AND SEMI NATURAL GREEN SPACE; AMENITY GREEN SPACES; FACILITIES FOR CHILDREN AND YOUNG PEOPLE; OUTDOOR SPORTS PROVISION INCLUDING PLAYING PITCHES; ASSOCIATED INFRASTRUCTURE AND ENGINEERING WORKS INCLUDING NEW VEHICULAR ACCESSSES, FOOTPATHS/CYCLEWAYS, A RESERVED STRATEGIC TRANSPORT CORRIDOR; UP TO 1 NO. ELECTRICITY PRIMARY-SUBSTATION AND LANDSCAPING WORKS (INCLUDING SUBS)."

1.3 This statement fulfills the requirements of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012. It has been prepared in accordance with the requirements of Technical Advice Note 12: Design (July 2014) which sets out guidance on the preparation of design and access statements. The application for planning permission is submitted in outline, with detailed permission being sought for strategic vehicular access points only. Matters relating to appearance, landscaping, layout and scale will be addressed at a later date and will include details relating to non-strategic access arrangements.

1.4 Design Team
• Nathaniel Lichfield & Partners: Town Planning;
• EDP: Landscape, Ecology, Heritage, Archaeology
• Vectos: Transport/Strategic level overview
• ARUP: Transport, Noise, Hydrology, Ground Conditions, Infrastructure;
• Pegasus Urban Design: Masterplanning and Urban Design;
• Scott Brownrigg: Architecture.

1.5 This document achieves this within the following sections:
Section 1 Introduction – outlines the purpose of the document;
Section 2 Assessment – considers the site and its surroundings in terms of the physical, social and planning context;
Section 3 Developing the Vision: Design Principles and Evolution;
Section 4 Design Proposals – presentation of the design proposals including uses and amount proposed, access arrangements, layout of the development, scale of buildings, landscaping treatments and appearance.
Section 5 Summary.

1.6 This Outline Planning Application requires an Environmental Impact Assessment and is therefore supported by a Transport Assessment, Planning Statement, Ecology Assessment, Landscape Assessment, Heritage Report, Flood Risk Assessment, Noise Assessment, Hydrology Report, Ground Investigation, Archaeological Report and a Green Infrastructure Strategy.
THE SITE IN CONTEXT

1.7 The 331.3ha site lies to the west of, and adjacent to, the metropolitan area of Cardiff, South Wales. Smaller conurbations exist to the south (St. Fagan’s) and the north (Radyr). The site is located some 6-7km north west of Cardiff city centre.

1.8 The north of the site is bounded by Llantrisant Road (A4119), Radyr Golf Course and existing development at Radyr Farm. Croft-y-Genau Road bounds the site to the west, apart from a triangle of land that follows the alignment of a former railway line. The southern and eastern site boundaries follow the edge of existing built development at St. Fagan’s, Fairwater and Danescourt, as well as a series of field boundaries. Pentrebane Road runs through the south of the site and provides a link between St. Brides Road and Pentrebane and Fairwater.

1.9 Two disused railway lines run east-west through the centre of the site and north-south at its north western extent. For the size of the site, a limited number of PRoWs cross the land in a generally north-south direction to the north of Pentrebane Road and east-west direction to the south of Pentrebane Road. There is also a bridleway to the south of Pentrebane Road, connecting Pentrebane Road with St. Fagan’s village.

1.10 With regards to accessibility, two rail lines operate regular services through north-west Cardiff – the City Line through Radyr, Danescourt and Fairwater and the Valley Line through Radyr. North-west Cardiff also has good bus accessibility, with over 10 routes serving the area around the site.
1.11 The application area is allocated within the deposit draft LDP as part of strategic allocation 'C' North West Cardiff. The proposed strategic allocation has a capacity of approximately 7,000 dwellings and is capable of delivering 5,000 of these as part of a mixed use sustainable urban extension within the period to 2026.

1.12 Early applications for 920 dwellings have already been submitted within allocation area C in order to address the urgent need for residential development. This separate application includes these areas within the masterplan to show how those early applications fit within the wider picture and how they are consistent with the design proposals for the wider proposed strategic allocation.
THE SITE

2.1 The site encompasses two farmsteads, namely Pentrebane and Maes-y-llech, as well as a former farm building/residence at Ty Gwyn.

2.2 Land to the north of Pentrebane Road is primarily in agricultural use and is used for grazing, crop production and occasional horticulture. The land is compartmentalised by hedgerows and woodland blocks of varying size, condition and status, and in parts is of a poor quality resulting from a lack of management and regular maintenance.

2.3 In terms of the quality of the agricultural land, the land within the site is predominantly classified as Grade 3a and 3b land. There are no areas of Grade 1 or Grade 2 land within the site. The distribution of Grade 3a and 3b land appears to reflect the prevailing topography, with plateau areas generally consisting of the higher Grade 3a land and the sloping ground Grade 3b land.

2.4 As well as hedgerows, woodland and grassland areas, a number of ponds, streams and ditches are located within the site which provide wildlife corridors through the site and the wider landscape.

2.5 Key woodland blocks provide screening and shelter, as well as a framework for the wider landscape. These include woodland at Coed-y-Trenches, Hafwrt, Coed-y-Gof, Waterhall Plantation and Coedbychan. The pattern of woodland largely follows the topography of the site, with many of the steep slopes having coverage.
PROPOSED TRAFFIC MANAGEMENT AND NEW ROUTES DIAGRAMS
Traffic Management

2.16 Active traffic management of the highway network will make the most efficient use of available road space, allocating queues in appropriate locations and managing the flow of traffic through key areas of the Site, including Air Quality Management Areas (AQMAs).

City Wide Measures

2.17 City-wide measures aimed at incentivising sustainable forms of transport will complement the NWCTS and help deliver a city-wide 50:50 sustainable mode split. Such measures include the proposals for Central Square to provide an attractive gateway to the city and a convenient point of multi-modal transport interchange.

2.18 The Council has recently reviewed parking charges in the city centre, and implemented an increase in tariffs. City wide measures include proposals for a cycle hire scheme, and this will be augmented by a city-wide cycle hire scheme.

Conclusions

2.19 The NWCTS will be delivered by the Council, Plasdwr (Strategic Site C), South of Creigiau (Strategic Site E) and North of J33 of M4 (Strategic Site D), and other key stakeholders, and will provide the travel choice required in North West Cardiff to contribute towards achieving the desired city-wide 50:50 sustainable mode split.

2.20 The transport and access proposals forming part of the enclosed application therefore seek to serve Plasdwr, but also in combination with wider proposals being brought forward by the Council and other stakeholders, seek to deliver the wider transportation strategy for the North West Corridor of the City.

Transport and Access Proposals

2.21 The principal objective of Plasdwr in respect of transport and access is to reduce reliance on the private car and to encourage sustainable travel choices. This reflects national guidance and therefore it would be contrary to Government policy for Plasdwr to simply design the highway network to accommodate predicted demand. This would simply perpetuate and reinforce the dominance of the private car ahead of alternative transport modes, contrary to national policy and the objectives of the emerging LDP. However, the highway network can be improved so that car movement is managed. This will primarily be through a proposed Traffic Management Strategy which will ensure that queuing is held in the most appropriate places.

2.22 Additional traffic demand will be minimised through design and the provision of realistic and attractive alternatives, and any demand which does occur will be managed on the network and accommodated outside of the peak periods.

2.23 The proposed development may alter the distribution and balance of traffic flows at individual junctions, and it has the potential to manufacture delay and inconvenience for private car users to further support the sustainable travel ethos promoted by Cardiff Council through the emerging LDP.

2.24 Plasdwr has therefore been informed by the following key design principles:

1) Sustainable Travel Choices;
2) Sustainable Travel Corridors;
3) Integration with Neighbouring Areas; and
4) Sustainable Hierarchy of Movement.
These four plans show the existing greenspaces, retail areas, leisure uses and education in the western area of Cardiff. This assessment of location and size provides comparisons with any new proposed spaces and uses within the new development, for example the existing woodland Coed-Y-Gof and the lowland fen are a similar size to Llandaff Fields or King George’s Field.
UK PRECEDE NTS: LARGE SCALE DEVELOPMENTS
VERNACULAR INTERPRETATION, MEDIUM DENSITY

COED DARCY, NEATH PORT TALBOT

BOLNORE VILLAGE, HAYWARD’S HEATH

LAWLEY, TELFORD

WATERCOLOUR, REDHILL
ASSESSMENT 02

COED DARCY, NEATH PORT TALBOT

BOLNORE VILLAGE, HAYWARD’S HEATH

LAWLEY, TELFORD

WATERCOLOUR, REDHILL
UK PRECEDENTS: LARGE SCALE DEVELOPMENTS
CONTEMPORARY DESIGN, HIGHER DENSITY

ACCORDIA, CAMBRIDGE

PORT MARINE, PORTISHEAD

NEWHALL, HARLOW

TRUMPON MEADOWS, CAMBRIDGE
EUROPEAN PRECEDENTS

IMAGES PREDOMINATELY USED TO SHOW STREETS AND SPACES

VASTRA HAMMEN, MALMO, SWEDEN

WOONERF (HOME ZONES) IN VAUBAN, FREIBURG
UK PRECEDENTS: MIXED USE DEVELOPMENTS
MIXED USE DEVELOPMENT CORES

USK, MONMOUTHSHIRE

LANDAFF, CARDIFF

CAERNARFON SQUARE

BRINDLEY PLACE, BIRMINGHAM

DICKENS HEATH, SOLIHULL

PORTISHEAD
LLANDAFF CHARACTER STUDY

2.26 Llandaff is a district in the north of Cardiff. This study focuses predominantly along the High Street and The Cathedral Green, which has a ‘village’ character. A range of architectural styles form distinctive street scenes and enclose the public open space, defined by low level railings. Along the High Street, there are a mix of uses where shops located on the ground floor provide active frontages, with residential primarily above.

- Natural stone detailing such as window and door surrounds and quoins create distinctive buildings.
- Mixed uses are found along High Street, where shops on the ground floor create active frontages, with residential above.
- Varying widths of pavements provide opportunities for tree planting and street furniture, whilst enabling ground floor activities to ‘spill out’ onto the street.
- Dormer windows animate the roofscape.
- A range of materials including natural stone, tile hanging, render and timber framing create interesting street scenes.
- Dwellings fronting public open space offer natural surveillance.
- Low level railing encloses the public open space.
- Railings define public from private areas.
CANTON CHARACTER STUDY

2.27 Canton is a district to the west of Cardiff city centre. Streets are typically long and straight with built form arranged in perimeter blocks, creating a formal building line, where on-street parking is common. Topography is harsh which opens up long distance views, whilst also providing opportunities for interesting landscaping design over split levels, as seen in Thompson’s Park.

Strong building line creates a sense of enclosure.

Typically on-street parking

Symmetrical projecting bay windows create distinctive buildings.

Recent development reflects the local architectural characteristics such as stone surrounds and bay windows.

Low brick wall and railings clearly define private boundaries.

Winding steps and interesting pedestrian routes through Thompson’s Park overcome the harsh topography of Canton.

Large trees terminate vistas down long sloping streets.

Until Decsive

Attractive public open spaces enhances the quality of the public realm.

CANTON CHARACTER STUDY

2.27 Canton is a district to the west of Cardiff city centre. Streets are typically long and straight with built form arranged in perimeter blocks, creating a formal building line, where on-street parking is common. Topography is harsh which opens up long distance views, whilst also providing opportunities for interesting landscaping design over split levels, as seen in Thompson’s Park.
2.28 Cyncoed is located to the north east of the city centre, an affluent suburb of Cardiff. Dwellings are predominantly large detached family homes with a range of architectural styles, set back from the street enabling personalisation through on plot parking and/or front gardens. Topography here is steep, where long distance views of Cardiff city centre adds value to properties, of which prices are some of the highest in Wales.
Roath is located to the north east of the city centre, adjacent to Cyncoed. Parts of Roath are among the most affluent districts in Cardiff, characterised by several tree lined avenues and Victorian era streets. These streets have a formal building line which creates a strong sense of enclosure and frames Roath Park.
2.30 Pontcanna is a western district of Cardiff. Wide tree-lined streets and large houses are typical of the area, giving a ‘village’ character within the city. Many of the large villas (such as along Cathedral Road) have been converted into flats, public houses and offices. Much of Pontcanna falls within a Conservation Area, which retains the rich heritage of the district.
2.31 Penarth is located south west of Cardiff city centre, lying on the north shore of the Severn Estuary at the southern end of Cardiff Bay. Victorian and Edwardian architecture is common in many traditional parts of the town. Topography is varied in Penarth, which enables long distance views to the sea and, like Canton, provides the opportunity for split level landscape design within a public park (Alexandra Park).
2.32 This area is based on the principles of Garden City design. The houses are not all identical but do follow a common architectural theme. There are several different house plans which are either grouped into cottages, terraces or semi-detached units with a coordinated range of materials. The buildings have a similar architectural language to create distinctive identity and to create cohesion between the buildings with a simple palette of materials and grouping of house styles. There is a hierarchy of green spaces, trees and hedgerows designed as an integral part of the development with direct routes and termination of vistas.
ST. FAGANS CHARACTER STUDY

2.33 St Fagans is located to the west of Cardiff. A range of architectural styles and materials are featured here, including natural stone and render. Low level stone walls clearly define private from public areas, creating a sense of enclosure.
TOPOGRAPHY PLAN

Slopes shown in different colors represent:
- Green: Slopes steeper than 1:5
- Blue: Slopes between 1:5 - 1:10
- Red: Slopes between 1:10 - 1:20
- Pink: Slopes shallower than 1:20

Slopes are based on LiDAR data.
**TOPOGRAPHY**

2.34 The topography is complex but in simple terms shaped as a horseshoe with the highest part of the site at 95m AOD located to the south of Llantrisant Road where the boundary meets the south eastern corner of Radyr Golf Course. Another high point at 65m AOD is located to the north west of Pentrebane Farm and a further high point of 64m AOD located to the north of Fairwater Leisure Centre.

2.35 The dismantled railway travels through the centre of the site at approximately 33-34m AOD to the north of Fairwater Leisure Centre, rising gradually to 43-44m in the west of the site. The dismantled railway corridor is located upon an embankment to the east of the site where it sits approximately 3m higher than the land either side. This corridor then creates 6-9m of cutting through the land form to the west.

2.36 The landform to the north of Fairwater Leisure Centre and west of Ashdene Close is steep and creates 1:5 gradients in parts of the site. This 1:5 gradient is also created to the north east of Pentrebane Farm running in a direction from Pentrebane Road to the north west. An area of Lowland Fen to the centre of the site sits at the lowest point in the site of approximately 30m AOD. The drainage of the site and existing drainage ditches therefore natural flow to this area creating wet ground. This landform situation therefore creates the ‘horseshoe’ shape with the vertex located to the west. The ridgelines form watersheds and the valley bottoms form sinks with wet, marshy grassland and/or small streams.

2.37 The land falls from Pentrebane Farm located at 50-51m AOD to 32-34m AOD at Pentrebane Road and then rises again to a high point of 59m AOD within open land to the north east of St. Fagan’s.

2.38 More generally, this undulating landscape offers openness and wide views from ridges, alternating with enclosure and intimacy within valley bottoms, proximal to woodland and hedgerow. The ridges and woodland blocks help visually contain discrete landscape areas. There are opportunities to utilise the topography to:
  - Define/create new character areas within the zones of intervisibility;
  - Use ridge tops as vantage points and create destinations around viewpoints; and
  - Support desire lines between these destinations.
FAIRWATER LEISURE CENTRE PITCH

EXISTING POND AND VIEW TO CARDIFF BAY

DISUSED RAILWAY LINE CROSSING

CROFT-Y-GENAU ROAD LOOKING NORTH

VIEW SOUTH FROM PENTREBANE FARM TO OPEN LAND EAST OF ST. FAGAN’S

EXISTING ACCESS TO PENTREBANE FARM FROM PENTREBANE ROAD

VIEW TO FAIRWATER FROM WESTERN SIDE OF MAES-Y-LLECH

VIEW FROM EASTERN SIDE OF CROFT-Y-GENAU TOWARDS PENTREBANE ROAD

HISTORIC ROUTE INTO PENTREBANE FARM

LOOKING NORTH
HERITAGE

2.39 The site and its immediate surroundings are not generally of high landscape quality, with the exception of land in the far south of the site, south of Pentrebane Road, which lies within the St. Fagan’s Lowlands and Ely Valley Special Landscape Area (SLA) and forms part of the St. Fagan’s Conservation Area.

2.40 The site contains the following three designated heritage assets, all of which are Grade II listed buildings:

- Pentrebane Farmhouse (82247);
- North wall of former walled garden at Pentrebane Farm (19682); and
- Barn at Pentrebane Farm (37650).

2.41 The application site also contains a small portion of the St. Fagan’s Conservation Area.

2.42 Twenty nine listed buildings, excluding those contained within the St. Fagan’s Conservation Area, are located within 0.5km of the site boundary. The site does not contain any nationally Historic Parks and Gardens, although the Grade I registered St. Fagan’s Castle is approximately 400 metres south west of the site.

2.43 A small portion of the undesignated site of the Battle of St. Fagan’s is located in the western tip of the application site, the majority of this asset is beyond the site boundary. There are also a further nineteen undesignated heritage assets within the site and the immediate vicinity.

2.44 The areas of highest archaeological interest are in the south and north of the site, where prehistoric and Roman activity is most likely to be encountered as well as in the vicinity of the medieval moated enclosure, the post-medieval historic farmsteads and the undated crop marks on the edge of the site to the west.

ECOLOGY

2.45 The agricultural land that comprises the majority of the site is primarily in pastoral use, being typically grazed by sheep in the north, horses in the centre and cattle in the south. Areas of semi-improved and marshy grassland are generally limited in extent and confined to a few fields at the southern end of the site and within the low lying valley towards its centre.

2.46 The site contains suitable habitat for surveyed populations of protected species including: bats; great-crested newts; barn owls and reptiles. Some woodland areas are also valued for their botanical richness.

2.47 A number of mixed woodland plantation blocks exist within the site, some of which are designated as Ancient Semi Natural woodland and many of which have been locally designated as Sites of Importance for Nature Conservation (SINCs). The Pentrebane Cottages Ponds and Goitre-Fawre Pond SINCs are known to support great crested newt populations.

2.48 In addition, patches of tall ruderal vegetation (primarily bracken) and scrub mosaic habitat exist along a south facing escarpment located within the centre of the site. The majority of the field boundaries within the site comprise tree lines, scattered mature trees and hedgerows which vary greatly in terms of species richness and structure as a result of differing management regimes. A variety of seasonally and permanently wet ditches/small streams also exist across the site. In addition, a number of ponds are present within the central section of the site, many of which are ephemeral in nature.

2.49 Whilst there are no statutory designations within the site, two internationally designated sites are within a 15km radius, namely Cardiff Beech Woods Special Area of Conservation (SAC) and the Severn Estuary SAC/ Special Protection Area (SPA)/Ramsar site. There are also 9 Sites of Special Scientific Interest (SSSIs) located within 2km of the site.

2.50 In terms of the quality of the agricultural land, the land within the site is predominantly classified as Grade 3a and 3b land. There are no areas of Grade 1 or Grade 2 land within the site. The distribution of Grade 3a and 3b land appears to reflect the prevailing topography, with plateau areas generally consisting of the higher Grade 3a land and the sloping ground Grade 3b land.

EXTRACT OF TOPOGRAPHICAL SURVEY SHOWING PENTREBANE FARM. RED BUILDINGS ARE SHOWN AS TO BE RETAINED.
EXISTING LANDSCAPE FEATURES AND VIEWS

2.51 The landscape is partly described by the large blocks of woodland and by the hedgerows that bound the fields. This landscape can be divided into four main character areas:

a. Gently sloping arable landscape either side of the Llantrisant Road contained by managed hedgerow/trees;

b. Steeper land north of the dismantled railway to the ridge, containing much woodland cover. The strong visual barrier of the railway runs along the valley bottom. Outside the woodland, arable land extends up the slopes in an irregular field pattern;

c. A minor ridge on which sits Pentrebane Farm, south of the dismantled railway. Similar in character to area B, it has much less woodland. Other vegetation is limited to trees contained in boundary hedgerows; and

d. South of Pentrebane Road which is largely covered by the St. Fagan’s Lowlands and Ely Valley SLA designation. It is characterised by mature trees and hedgerows delineating small to medium-sized arable or pasture fields. An extensive shelter belt - running south from Pentrebane Road – bisects the area and to its east the character is influenced heavily by the existing settlement at Pentrebane.

2.52 As well as hedgerows, woodland and grassland areas, a number of ponds, streams and ditches are located within the site which provide wildlife corridors through the site and the wider landscape. Marshy grassland is located to the centre of the site and supports areas of UK BAP Priority Habitat ‘Lowland Fen’. Sensitively designed future ponds or SUDs within this marshy grassland/fen could provide additional habitats of value to wildlife.

2.53 Key woodland blocks provide screening and shelter, as well as a framework for the wider landscape. These include woodland at Gwern-y-cegyn, Coed-y-Trenches, Coed-y-Gof, Waterhall Plantation and the unnamed woodland that runs along a north-south axis parallel to the existing built form of Pentrebane. The pattern of woodland largely follows the topography of the site, with many of the steep slopes having coverage.

2.54 The seven large on-site woodland blocks are of variable age, species composition and woodland community (floral) diversity. Six of the woodland blocks are Sites of Important Nature Conservation (SINC). Three UK BAP Priority Habitats have been recorded, namely: Lowland Beech and Yew Woodland; Lowland Mixed Deciduous Woodland and Wet Woodland. All woodlands within the study area fall under the local Cardiff ‘Woodland’ Habitat Action Plan. The woodlands have been prioritised by the team in terms of their protection from public intervention (1 requiring most public intervention and 7 allowing most public access):

1) Coed-y-Tranches;
2) Coed-y-gof;
3) Coed bychan;
4) Whitehall Plantation;
5) Former Llantrisant Line;
6) Area of non-SINC woodland; and
7) Former Penrhos Branc Line.

2.55 There are also other individual trees located within the site ranging in different quality. An avenue of sweet chestnuts along Croft-y-Genau Road and west of Pentrebane Road should be retained as they form an historical link with the St. Fagan’s estate. The Arboricultural Assessment that accompanies this application should be referred to for more information on location and condition of trees and hedgerow.
2.56 A network of Public Rights of Way cross the site and join its boundaries. The area to the north of Llantrisant Road has the densest network and extent of public access. These routes link up with access across the M4 to the north via footbridges and underpasses.

2.57 The Application Area itself only contains a few main routes. One route links Llantrisant Road to Pentrebane in the west of the site and another is located further east running from Llantrisant Road through the farmstead of Maes-y-llech and onward to Pentrebane Road. The remainder of the routes are located to the south of Pentrebane Road and link up with St. Fagan’s.

2.58 The Local Cycle Network provides routes across Cardiff, and comprises traffic free paths, sign-posted cycle routes, advisory cycle routes and main road routes. Existing on road cycle routes are located within Danescourt (Route 7) and Fairwater (Route 71). These link in with the Strategic Cycle Network of on road signed cycle routes providing links to the City Centre and other local destinations.

2.59 There are also off road strategic cycle routes and two of these run close to the site. NCN 8 – Taff Trail runs along the River Taff to the north east of the site. NCN 42 – Ely Trail runs along the north west of the site.
2.60 The constraints and opportunities presented by the site are utilised to inform and structure the development proposals. These are outlined below and illustrated, where appropriate, on the Constraints and Opportunities plans.

**CONSTRAINTS**

- Complex Topography of the site;
- Trees, woodland and small copses;
- Hedgerows and other features of landscape and ecological interest;
- Watercourses and the lowland fen area;
- Key views into and out of the site;
- Roads and public rights of way;
- Services and easements crossing the site;
- Pentrebane farm listed building; and
- Adjoining residential areas.

**OPPORTUNITIES**

- The development of a new district with a unique identity and character;
- Opportunity to underground section of powerlines to improve townscape quality;
- Provision of improved public transport options;
- Provision of new and improved cycle network;
- Opportunity to provide significant improvements along Llantrisant road and Pentrebane road;
- Opportunity to provide significant improvements within the area for pedestrians and cyclists;
- Opportunity to facilitate new secondary school;
- Opportunity to deliver serviced land for employment;
- Ability to deliver a network of new public open space and parks;
- Opportunity to deliver new community and recreational facilities;
- Creation of a high quality gateways and positive western edge to Cardiff;
- Provision of a range housing types, sizes and tenures;
- Provision of a range of employment opportunities;
- Development of connections to the existing highway and public rights of way network;
- Protection and enhancement of nature conservation, heritage and archaeological interest;
- Provision of a strong landscape framework utilising trees and hedgerows on the site;
- Enhancing ecological and landscape features and wildlife corridors;
- Use of sustainable urban drainage systems;
- Enhancing existing footpaths and countryside links;
- Creation of a comprehensive green infrastructure; and
- Retention of key views.

**EXISTING ECOLOGICAL NETWORK**

![Existing Ecological Network Diagram](image-url)
PLANNING POLICY

2.61 The development proposals will be formulated having due regard to national and local policies and supplementary guidance. Government guidance in the form of the Planning Policy Wales (PPW) state that sustainable development is the central organising principle of the Welsh Government and figure 4.1 states:

“The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations”.

2.62 Chapter 4 of PPW deals with promoting sustainability through good design. Specifically, paragraphs 4.11.1 and 4.11.2 recognises that good design means the relationship between all elements of the natural and built environment. It should go beyond aesthetics and consider social, environmental and economic aspects of the development. As such, good design is cited as a key tool in delivering sustainable development.

2.63 PPW para 9.1.2 states that Local planning authorities should promote sustainable residential environments, avoid large housing areas of monotonous character, and make appropriate provision for affordable housing. Local planning authorities should promote:

- Mixed tenure communities;
- Development that is easily accessible by public transport, cycling and walking;
- Mixed use development so communities have good access to employment, retail and other services;
- Attractive landscapes around dwellings, with usable open space and regard for biodiversity, nature conservation and flood risk;
- Greater emphasis on quality, good design and the creation of places to live that are safe and attractive;
- The most efficient use of land;
- Well designed living environments, where appropriate at increased densities;
- Construction of housing with low environmental impact by using nationally prescribed sustainable building standards; reducing the carbon emissions generated by maximising energy efficiency and minimising the use of energy from fossil fuel sources, using local renewable and low carbon energy sources where appropriate; and
- 'Barrier free' housing developments.

2.64 Technical Advice Note 12: Design, 2014 seeks to encourage a high standard of design that respects the character of the surrounding area for all new developments. Specifically the advice notes sets out the following key objectives of good design:

- Achieving sustainable design solutions;
- Sustaining or enhancing character in townscape or landscape;
- Promoting innovative design, promoting a successful relationship between public and private space;
- Promoting high quality in the public realm,
- Ensuring ease of access for all;
- Promoting legible development,
- Designing for change; and
- Promoting quality, choice and variety.

2.65 TAN 12 further confirms that:

“good design will almost always be dependent on working within the natural constraints of the landscape and this would be the starting point from which the design of development evolves”.

2.66 In relation to design and layout, TAN 12 advises that housing design should aim to:

- Create places with people in mind, which are distinctive and respect local character;
- Promote layouts and designs which encourage community safety and accessibility;
- Focus on the quality of the places and living environments for pedestrians rather than the movement and parking of vehicles;
- Avoid inflexible planning standards and encourage reduced road widths;
- Promote energy efficiency in new housing;
- Secure the most efficient use of land including appropriate densities; and
- Consider and balance potential conflicts between these criteria.
LOCAL PLANNING GUIDANCE

EMERGING DEVELOPMENT PLAN POLICY

2.67 The second iteration of the emerging LDP was placed on deposit in September 2013. The deposit LDP strategy is founded upon the principle that strategic sites are best able to contribute towards delivering the step change in construction required as well as the wider provision of strategic infrastructure to the benefit of the City and wider city-region as a whole.

2.68 Consultation on ‘Alternative Sites’ took place between 11 February 2014 and 4 April 2014. Whilst the emerging LDP is yet to be tested at Examination, some weight can be afforded to the development strategy of the emerging Plan as it is founded on an up to date evidence base and it has been established by way of Examination that the scale of residential development required cannot be met by small scale releases across the City.

2.69 The application site forms part of strategic allocation ‘C’ that will provide 5,000 dwellings during the plan period (2006-2026). The applicant and Cardiff Council have been working closely in order to develop a joint masterplan for the site which is reflected in the Masterplanning Framework evidence base document.

2.70 The emerging LDP sets out its objectives under 4 main headings:

- To respond to evidenced economic needs and provide the necessary infrastructure to deliver developments;
- To respond to evidenced social needs;
- To deliver economic and social needs in a coordinated way that respects and enhances Cardiff’s environment; and
- To create sustainable neighbourhoods that form part of a sustainable city.

2.71 From a design perspective, the fourth objective above (creating sustainable neighbourhoods) is sought to be achieved through the emerging LDP by way of 10 masterplanning principles. These are set out at paragraph 4, page 25 of the emerging LDP and form the basis of the masterplanning approach embodied in policy KP4 of the emerging LDP and the Masterplanning Framework evidence base document.

2.72 The following design guidance documents are also relevant to creating good design:

- Improving Lives and Communities - Homes in Wales, (Welsh Assembly Government, 2010)
- Cardiff Residential Design Guide: SPG (Cardiff City Council, 2008);
- Open Space: SPG (Cardiff City Council, 2008);
- Access, Circulation and Parking Standards, SPG (Cardiff City Council, 2010);
- Design and Access Statements in Wales Why, What and How (Design Commission for Wales for, 2011);
- A Model Design Guide for Wales Residential Development, (Design Commission for Wales, 2005);
- Safer Places – The Planning System and Crime Prevention (ODPM, 2004); and
DEVELOPING THE VISION
EBENEZER HOWARD’S GARDEN CITY MODEL DIAGRAM OVERLAID ONTO THE SITE

INITIAL CONCEPT DIAGRAM FOR PLASDWR SHOWING THE CENTRAL FOCUS, RADIAL LINKS AND NODAL POINTS
Developing the Vision

3.1 Plasdwr takes its inspiration from the successful design elements of the Garden City movement, existing Cardiff districts and UK and European precedents.

3.2 The design principles have been derived from a combination of the site assessment, site evaluation and design evolution. In line with National and Local Government Guidance and Policy, considerable importance has been placed on achieving a high standard of design. Urban design objectives are intended to ensure a high quality layout, whilst the identification of the constraints and opportunities will ensure that the proposals are sensitively assimilated on the site and into the surrounding landscape and urban fabric. Successful urban design is dependent upon achieving an appropriate relationship between community needs, development principles, development form and a positive response to local conditions.

GARDEN CITY PRINCIPLES

3.3 As part of the masterplan development, research was undertaken into the Garden City movement.

3.4 The father of the Garden City movement, Ebenezer Howard, did not prescribe a definitive set of principles or guidelines for the purposes of planning new Garden Cities. Whilst a number of 20th century interpretations stand testament to evolving national priorities for design and delivery of large housing projects, it is the qualities of the original developments and the sentiments expressed by Howard, which drive contemporary policy makers and urban designers, such that:

“The advantages of the most energetic and active town life, with all the beauty and delight of the country, may be secured in perfect combination”.

3.5 As the ancestor of the Garden Cities Association, the Town and County Planning Association (TCPA) has reviewed Garden City principles with a view to promoting their use within planning and delivery of new residential development. The TCPA’s report considers lessons learned from previous garden city development including:

1. Strong vision, leadership and community engagement;
2. Land value capture for the benefit of the community;
3. Community ownership of land and long-term stewardship of assets;
4. Mixed-tenure homes that are affordable for ordinary people;
5. A strong local jobs offer in the Garden City itself, with a variety of employment opportunities within easy commuting distance of homes;
6. High-quality imaginative design (including homes with gardens), combining the very best of town and country living to create healthy homes in vibrant communities;
7. Generous green space linked to the wider natural environment, including a mix of public and private networks of well-managed, high-quality gardens, tree-lined streets and open spaces;
8. Opportunities for residents to grow their own food, including generous allotments;
9. Access to strong local cultural, recreational and shopping facilities in walkable neighbourhoods; and
10. Integrated and accessible transport systems - with a series of settlements linked by rapid transport providing a full range of employment opportunities.

3.6 In the 21st century, Plasdwr needs more, better-quality and sustainable housing to meet changing social needs and an increasingly low-carbon economy: affordable family housing, an increased range of accommodation for older people looking to ‘downsize’, and truly local services and employment opportunities to provide the basis for a strong community with identity and interaction. These aspirations chime with the Garden City ethos; people of all ages want to live in a living and working community: positive, healthy and vibrant with access to high-quality green spaces and the countryside. Some of the strategic design principles for the layout of Garden City’s has been followed including:

1. Concentric model;
2. Central Park;
3. A well planned development structure with clearly defined movement routes through the development;
4. A mix of complementary land uses that are conveniently located within the development proposals;
5. Enhanced natural environment;
6. Tree lined landscaped streets;
7. A landscape design approach adopted within the development blocks so that improvements to biodiversity and wildlife settings can be incorporated;
8. High quality homes that aid in creating variety and character to the area, but also provide a mix of homes to cater for the existing communities needs;
9. Strong links to the wider countryside with a harmonious relationship created between the built form and the wider landscape; and
10. Integrated and accessible transport systems, where care is taken over the design of the streets to create attractive routes for pedestrian/cyclist movement.

3.7 The Garden City principles provide some good precedents for the strategic layout of the development but are based on car movement and car ownership and some face problems with high speed routes due to the width of streets and high visibilities. The detailed layout of streets therefore needs to look at more contemporary examples such as those promoted by manual for streets.

3.8 The density at Plasdwr will also be higher to allow the creation of walkable neighbourhoods. Existing Garden Cities have lower densities and greater land take, this promotes the use of the car to access facilities and is the opposite aspiration of Plasdwr which wishes to provide walkable facilities and inclusive communities.
STRUCTURING ELEMENT:
CREATION OF A CYCLE HIERARCHY

STRUCTURING ELEMENT:
CREATION OF RADIAL GREEN LINKS WITH CENTRAL GREENSPACE

STRUCTURING ELEMENT:
CREATION OF NODAL POINTS WITHIN APPROPRIATE WALKING DISTANCES

STRUCTURING ELEMENT:
CREATION OF CO-LOCATED FACILITIES AND MULTI FUNCTIONAL SPACES

STRUCTURING ELEMENT:
GREEN INFRASTRUCTURE

STRUCTURING ELEMENT:
SUSTAINABLE DRAINAGE

STRUCTURING ELEMENT:
MIXED USE AREAS
10 MASTERPLANNING GENERAL PRINCIPLES

City of Cardiff Council have developed 10 Masterplanning General Principles that they consider essential to create new sustainable neighbourhoods. These are:

1. Masterplanning approach - Development schemes that are planned in a comprehensive and integrated manner reflecting partnership working and setting out the phasing of development along with timely provision of supporting infrastructure. Masterplans will need to encompass the whole of a development area regardless of land ownership patterns, and this will require partnership working, involving all relevant parties.

2. Development density - High density residential and mixed-use development is focused along public transport corridors and in neighbourhood centres with lower densities provided elsewhere to deliver an overall range and choice to meet different needs.

3. Sustainable transport corridors - Dedicated sustainable transport corridors including provision for public transport, cycling and walking which will form key elements of the overall master plan and effectively link into the wider network.

4. Sustainable travel choices - Walking, cycling and public transport will be attractive, practical and convenient travel choices for all.

5. Neighbourhood centres - Provision of a full range of social and community facilities will be concentrated within mixed use neighbourhood centres located along public transport corridors and easily accessed walking and cycling.

6. High Quality Sustainable Design and Distinctive Character - The masterplanning process effectively responds to the local context and the context of climate change, to create new well designed neighbourhoods with a distinctive character which residents will be proud of.

7. Integrating with Neighbouring Areas - New development responds to local deficiencies and provides good connectivity to adjoining areas and is informed by feedback from existing communities.

8. Connected strategic green open spaces - Multi-functional and connected green open spaces form strategically important links to the surrounding area to provide routes for people and wildlife and open spaces for sports, recreation and play.

9. Landscape, biodiversity and heritage - Sympathetically integrate existing landscape, biodiversity and historic features of the site into the development taking opportunities to protect, enhance and manage important features along with mitigation and enhancement measures to provide satisfactory compensatory measures.

10. Resource efficiency - Innovative and creative energy, management of surface water and waste management solutions are adopted to make new developments more environmentally sustainable.
CHARACTER

“Sustaining or enhancing local character, Promoting legible development, Promoting a successful relationship between public and private space, Promoting quality, choice and variety, Promoting innovative design”

Figure 1, TAN 12.

- Integration of the development with the existing built form of Cardiff in relation to scale, height and massing. The approach should begin with an understanding of the existing area and its design should evolve from the area’s landscape and built heritage. It is necessary fully to understand the special characteristics of the site;
- The development should respect local context and historical character and strengthen and enrich local identity, character and distinctiveness;
- Consideration of views in and out of the site;
- Protection of existing and proposed residential amenity through the use of frontage development thereby enclosing rear gardens;
- Other physical and visual connections should also be incorporated into the development proposals by the approach to landscape design and consideration of views and vistas;
- Varying building heights and materials by encouraging high quality design to create variety and visual interest to assist in creating diversity and distinctiveness;
- A response to the existing landscape context must be ensured through the retention of significant existing trees, hedgerows and other ecological features. Important views into and out of the site should be established and incorporated into the development layout;
- The development should respond to the local topography by proposing movement corridors and built form which aligns with existing contours in order to minimise earthworks and to emphasise the natural landform;
- Opportunity to establish a new distinctive identity to the development, whilst having its own character and integrating with the landscape context;
- Minimise the impact of the development on the surrounding context;
- Integration of a strong landscape structure;
- Establishment of a strong identity; and
- Ensure a ‘sense of place’ to the development.

ACCESS

“Ensuring ease of access for all”

Figure 1, TAN 12

- Creation of convenient, safe and direct access for all residents to the local facilities;
- Provision of multiple vehicular access points into the development and additional pedestrian accesses forming part of a permeable network of streets which assists in dispersing traffic (vehicular and pedestrian);
- Creation of a clear movement hierarchy providing easily recognisable routes which balances the street as a space alongside its function as a movement corridor;
- The connectivity of Plasdwr to St. Fagan’s is maintained and enhanced wherever possible. This is achieved through retaining existing public rights of way as an integral part of the development, or providing attractive alternatives and diverting routes and providing additional linkages;
- Maintaining a human dimension in terms of scale to the built form for ease of orientation;
- Provision of buildings that assist in navigation through the development as well as signify the gateway points;
- A comprehensive approach which is responsive to local need. This comprehensive approach combines movement, leisure, economic, educational and ecological issues in order to demonstrate a holistic response;
- The new community must be integrated with the existing urban fabric, both physically and socially. This could be achieved through sympathetic design, strong movement links and shared use of new facilities; and
- The masterplan must also seek to integrate the development by providing a high level of accessibility for all users, specifically promoting access for pedestrians, cyclists and public transport, as well as the needs for vehicles.

3.10 From these key themes, details have been developed to achieve the criteria set out at Figure 1 of TAN12.
COMMUNITY SAFETY
“Ensuring attractive, safe public spaces and Security through natural surveillance”
Figure 1, TAN 12

- The creation of a safer environment for all must be considered throughout the design process including the perception or fear of crime. This can be achieved through the layout of the development itself as well as the form and type of facilities and services provided;
- Strong landscape and open space structure;
- Provision of a clear hierarchy of connected spaces and places, including streets, accessible by a variety of users which consider the design of the space as well as its function as a movement corridor;
- Creation of a clearly defined public realm through the provision of strong building frontage lines and variations in enclosure of private spaces;
- Control of access to private areas, particularly rear gardens and parking courts;
- Provision of accessible public open space to meet the needs of the local community whilst encouraging social activity;
- Inclusion of family friendly environments, activities and facilities; Ensuring pedestrian and cyclist safety; and
- Building to high standards.

ENVIRONMENTAL SUSTAINABILITY
“Achieving efficient use and protection of natural resources, Enhancing biodiversity and Designing for change”
Figure 1, TAN 12

- Creation of new landscape features and wildlife habitats on the site;
- Creation of a sustainable urban drainage strategy;
- Achieving environmental sustainability and healthy living;
- Diversity should be considered in relation to people and their activities as much as to built form, and public spaces, as built form helps shape the life of a place but it is people who add liveliness and fun;
- Variety is fundamental to creating a place with its own character, visual interest and activity, so a well functioning place should cater for a range of lifestyles and activities and should respond to the local community;
- Diversity can be achieved through mixed use developments, to encourage a vibrant local economy. It can be introduced through mixes, with residential development as a key component by introducing a range of housing types, tenures and densities responding to local needs. Opportunities for variety and choice, within the local context, should be maximised and proposals should incorporate the principles of mixed use development, including the provision of conveniently located community infrastructure;
- Provision of, and easy access to, green spaces encompassing various forms of recreational activities for different age groups;
- Use of energy efficient building techniques;
- Achievement of high levels of passive solar gain through the careful orientation of buildings;
- Introduction of different types of play areas as an integral part of the open space strategy;
- Creation of green links to act as wildlife corridors through the site linking wildlife habitats off and on the site; and
- Integration of proposed landscape features in order to soften the built form.

MOVEMENT
“Promoting sustainable means of travel”
Figure 1, TAN 12

- Encouragement of walking, cycling and public transport use rather than the use of the private car thereby reducing the reliance on natural resources;
- Provision of a variety of sports and play facilities;
- Locating facilities within walkable catchments;
- Creation of jogging/walking routes or ‘trim trails’;
- Accessible greenspace both formal and informal; and
- Integration between the Plasdwr and the existing community on the north west of Cardiff.
DEVELOPING THE VISION

3.11 In addressing the constraints and opportunities and progressing the scheme with the team and Cardiff Council, the opportunities to incorporate the following revisions have been identified:

- Revised design of the main movement corridors to follow the topography and maintain appropriate gradients;
- Relocation of district centre further north away from the dismantled railway to create better population catchment, easier access for all and to use top of hill for landmark buildings;
- Realignment of future tram/train to pick up three of the mixed use areas;
- Relocation of secondary school to west of site to sit better within catchments of existing secondary schools;
- Green corridor and view provided to listed farmhouse at Pentrebane Farm;
- The new ‘spine road’ has been redesigned to accommodate more axial links and become less of a ‘loop’ compared to previous design approaches;
- Enhanced Sustainable Drainage SUDS are now proposed to reduce surface water run off and flood risk downstream, and also provides biodiversity and amenity opportunities.

DESIGN EVOLUTION

MASTERPLAN JUNE 2014

MASTERPLAN AUGUST 2014
WESTERN QUARTER EARLY DEVELOPMENT

PENTREBANE FARM EARLY DEVELOPMENT
DEVELOPING THE VISION

DISTRICT CENTRE EARLY DEVELOPMENT
THE MASTERPLAN
USE & AMOUNT

4.1 (The Town and Country Planning (Development Management Procedure) (Wales) Order 2012 states that “amount” means (a) the number of proposed units for residential use).

Residential - up to 5,970 dwellings (Class C3)

4.2 The development achieves an average net density of 40 dwellings per hectare (dph). This density will allow for the formation of differing densities across the development including higher density towards the proposed community facilities and lower densities near landscape sensitive areas or where village character is to be promoted.

4.3 The density will also allow for a range of dwellings across the site with a range of sizes and tenures in order to accommodate a variety of household types. This will provide a hierarchy of dwellings from large detached properties with big plots through to smaller terraced forms allowing for a variety in the proposed streetscape as seen within Cardiff and St. Fagan’s.

Affordable Housing

4.4 An element of affordable housing will be provided within the development in clusters and could include affordable rented, shared ownership and low cost/reduced cost market housing, details will be submitted at Reserved Matters Stage through consultation with the Planning Authority and will be informed by the affordable housing provisions contained within the Section 106 Agreement.

Mixed Use Areas – (13.2 hectares)

4.5 Community facilities are an essential part of a new place and a good basis for building communities that, in turn, will provide support to the facilities. The masterplan proposes a district centre and three smaller local centres. The smaller centres will provide local facilities to their associated neighbourhood such as convenience stores, takeaways and other local facilities. The district centre will not only provide a local facility for the new development but will also support and provide additional community facilities for the western part of Cardiff that is currently not well served.

4.6 The district centre situated in the eastern part of the site will provide a range of facilities that could possibly include up to 12,000sqm of uses in Use Classes A1-A3, B1, C1, D1 and D2 and including a food store (up to 5,000sqm gross) with associated parking. A diverse mix of uses will contribute towards making this area an active and vibrant place throughout the day. The eastern district centre is positioned adjacent to the new strategic cycle corridor and public transport corridor giving the option for journeys to be made by means other than the private car.

4.7 Three local centres are to be provided each with a different type and range of facilities. The combined proposal is for convenience shops and facilities/services (up to 7,900 sqm of A Class uses, as well as a public house, community hall and healthcare facilities). It is proposed that the Listed Buildings at Pentrebane Farm become a key focus of a new local centre that provides low key retail and community facilities. The western local centre is designed to be flexible to allow for future expansion if required and is co-located with the secondary school and primary school. The northern local centre is proposed to be the smallest and provide a small convenience store and/or other local facilities co-located with the primary school.

Employment - (up to 15,500sqm)

4.8 The main employment area is situated within the District Centre and is proposed to consist of a mix of B1 and B2. The employment land is also located having regard to any future public transport route that will run through this area of the development.
**Education - (13.5 hectares)**

4.9 Land for a secondary school (7.2ha) and three primary schools (2.1ha each) are provided as part of the proposed development. The secondary school is co-located with a primary school and local centre to the west of the development alongside the public transport route and strategic cycle route. This location also works well within the existing green infrastructure and connections to the woodlands. The school location is within 1500m of 98% of the new dwellings. When combining a 1500m catchment of Radyr and Plasmawr Comprehensive Schools with the new Plasdwr school then all dwellings are located within the walking distance.

4.10 Primary schools are located within the north, south and west of the development. A new school is also located to the east of the site within the Phase 1 Outline Application. When combining a 600m catchment from the existing schools of Danescourt and Pentrebane then 100% of new dwellings will be located to be within a maximum of 800m walking distance of a primary school. Some use of the school sports pitches are proposed to be utilised as dual use facilities after school hours.

**Public Open Space**

4.11 The amount of open space provided has been designed in order to cater for the recreational needs of the new community at Plasdwr. The public open space has been calculated based on Strategic Site C Information in the Cardiff Local Development Plan Masterplanning Framework [May 2014]. The green infrastructure requirements listed are:

- 30.4ha Open space (inc. 15ha of formal recreational open);
- 2x 50 plot allotment sites (through on-site/off site provision);
- 6 playgrounds (inc destination play area) plus off site contribution; and
- 2 teen facilities, plus off site contribution.

4.12 The above figures cover 5,000 dwellings over the plan period to 2026. The green infrastructure proposed as part of this application caters for the total 7,000 dwellings. The following provision is therefore proposed:

- Sports Formal Recreational 19ha;
- The Waterhall Plantation, Coed-Y-Gof and Coed-Y-Tranches will provide biking trails and woodland facilities such as a ‘Go Ape’ centre and would deliver in excess of the missing 2ha of recreational space;
- Children’s Equipped Play Space over 8 playgrounds which are proposed as joint LEAP/LAPS totaling 3.28ha;
- 2 destination play areas at 0.7ha each, total 1.4ha;
- 2 teen facilities at 0.15ha each, total 0.3ha;
- A further 125ha of natural, semi natural and informal open space is proposed including attenuation areas; and
- 2 allotment sites totaling 0.72ha.

4.13 Approximately 40% of the application area comprises of structural greenspace excluding private spaces and incidental landscaping. To be accessible to children in the development a hierarchy of play areas are provided within appropriate walking distance of the majority of all new dwellings. These play areas take the form of Destination Play Areas, Teen Facilities such as a skate park or bmx track, Local Equipped Areas of Play (LEAPs), Local Landscaped Areas of Play (LLAPs) and Local Areas of Play (LAPs). These play areas provide formal and/or natural play. All dwellings are also within walking distance of sports pitches or kickabout areas. It is proposed that there will be dual use of the school’s sports pitches.
LAYOUT & ACCESS

OVERALL TRANSPORT STRATEGY

4.14 As an extension of Cardiff’s urban area, the scale of the proposed development, combined with its strategic location bridging Cardiff and urban areas in Rhondda Cynon Taf, mean that a hierarchy of transport connections is required. This includes a framework of multi-modal connections at regional and local levels in the short through to long term horizon. Consistent with the transport objectives, the infrastructure will support the use of sustainable transport modes in preference to single occupancy car.

4.15 Driving the design is the recognised need to provide a new sustainable transport corridor through the site that connects the proposed district and local centres. The applicant is fully supportive of the Council’s tram-train proposals, with the masterplan for the site being developed to accommodate the delivery of the scheme in the longer-term. This will be achieved by safeguarding a corridor to accommodate the infrastructure necessary for a tram-train operation – as well as positioning land uses in a way which supports transport networks and maximises convenience of access. In view of the uncertainties and whilst further details are progressed with regards to the tram-train proposals, phased enhancements to existing public transport opportunities will be pursued to ensure the that the shared vision with the Council for increased modal shift is achieved.

4.16 The sustainable transport corridor will be designed to accommodate cars, pedestrians and cyclists, as well as a bus-based rapid transit route. In addition, land will be safeguarded should Cardiff Council seek to pursue a tram-train route in the future, either along the alignment of the sustainable transport corridor or following the approximate alignment of the former railway line that runs in a north-west to south-east route through the site. The flexibility to pursue either option will be protected in the masterplan.

4.17 Enhancements to public transport will include the physical infrastructure such as bus lanes and waiting facilities at bus stops but also improvements to service operation through the introduction of more frequent services and high quality vehicles.

4.18 Phased improvements at the site will include:
- Provision of new or extension to existing bus services that provide connectivity with existing local communities, including nearby rail stations, and provide expess connections to the city centre;
- Integration of bus priority measures within the site, providing reliable, direct and attractive bus services; and
- Improvements to supporting infrastructure including improved waiting facilities at bus stops and spatial integration at interchanges.

4.19 As described above, the primary focus for trips to and from the site will be public transport. This will be complemented by an internal layout which promotes walking and cycling for short trips. Public transport will be progressively introduced to complement the phased development of uses in the site. Public transport services will be provided from the outset to instill sustainable travel patterns amongst new residents from the outset and to discourage residents from developing car-oriented travel patterns.

4.20 In addition to the sustainable transport corridor, new pedestrian and cycle routes will be provided across the site connecting the district and local centres and schools with the residential neighbourhoods and open space/recreation spaces. Where appropriate, the disused railway lines within the site will form traffic-free strategic cycle routes within green corridors that are protected from development.

BUS ROUTES

4.21 Bus gates will be used to give bus priority and promote modal shift. A bus gate that is only ‘on’ during rush hour will be provided within Pentrebane Farm to deter traffic traveling from Llantrisant Road to short cut through the development and link up with Pentrebane Road. This bus gate will be turned off outside of peak flows to allow the mixed use centre opportunities for passing trade and weekend use.

4.22 A bus gate will also be located on Llantrisant Road opposite the filling station near Herbert March Close. This will enable a bus to travel from Croft-Y-Genau Road through the development and district centre and then out onto Llantrisant Road bypassing the traffic management system that is proposed along Llantrisant Road. These two bus gates will help keep cars on there existing desire lines but allow public transport ability to speed up journey time.
PROVIDING PEDESTRIAN/CYCLE ROUTES

4.23 The new routes through the development will connect with existing streets and footpaths so that the new community will integrate with the wider area. The new routes will provide access for new and existing residents to the proposed community, retail facilities and green spaces. The positioning of the primary schools, mixed use centres and green spaces alongside key routes will help promote these uses as hubs of the community.

4.24 The proposed main cycling routes are shown on the accompanying plan. The development proposes approximately 17km of new cyclepaths and a vast network of new footpaths. These routes include:

- Cyclepath along southern side of Llantrisant Road;
- Shared strategic cyclepath along dismantled railway;
- Shared cyclepath running alongside northern side of dismantled railway to link centres and schools. This route will allow children to access the primary and secondary schools without having to use the less surveyed routes within the woodlands. This route will also allow for cycle trains, scoot to school and optional drop off point at eastern end allowing children safe and direct route to secondary school;
- Strategic cycle route along Pentrebane Road and Croft-Y-Genau, this will provide connection between Ely Trail to the south and Radyr and the Taff Trail to the north east;
- Axial link from district centre to north west corner of site;
- Separate cyclepath following alignment of main movement corridor; and
- Series of interconnecting paths within a landscaped framework.

4.25 The proposed, existing and diverted footpaths, and bridleways are shown on the accompanying plan. These routes include:

- Network of PROWs and new routes between Pentrebane Road and St. Fagan’s;
- Two existing PRDWS running roughly north south through the site with diversions around the secondary school and district centre;
- Links to Croft-Y-Genau from Pentrebane Farm;
- Link from Pentrebane Road parallel to Ashcroft Crescent into the site;
- Potential link to Ashdene Close; and
- Network of new routes through woodlands.

4.26 These routes maintain, divert and extend existing and new desire lines across the site linking key spaces. This formation of linkages and routes along with the vehicular routes defines the development blocks provides clear links through the development. The continuity of the street pattern assists in defining the public realm, promotes an active street scene and helps to create a safe and attractive environment. This will not only increase the variety of place experience possible but will also help focus social activity and interaction in public spaces. The routes established within the masterplan should incorporate good lighting, overlooking from dwellings and the creation of level well designed crossing points.
A HIERARCHY OF STREETS

4.27 The development is laid out around a permeable system of streets and spaces that recognise the need to combine the function of the street as a movement corridor alongside its place function. The hierarchy of vehicular movement is kept simple and as follows:

- Safeguarded tram train route following northern side of dismantled railway;
- Main Street (Bus route and allowance for future proofing of tram train);
- Main Street (Bus Route);
- Quiet streets;
- Shared surfaces/Home Zones; and
- Private drives.

4.28 The development incorporates the following new junctions:

- Junction off Pentrebane Road opposite and continuing the desire line of Beechley Drive;
- Junction from Crofft-y-Genau Road to the northern side of the dismantled railway;
- Minor junction from Crofft-y-Genau Road just to the south of Llantrisant Road to serve small development parcel;
- Access from roundabout of Clos Parc Radyr and potential for change of junction type;
- Junction from Llantrisant Road where mixed use is proposed;
- Potential for further Llantrisant Road junctions to create activity along this corridor and change the highway character;
- Croft-Y-Genau will be closed to vehicular traffic between St... Brides Road junction and the crossing of the dismantled railway but retained for limited access to existing properties and as a pedestrian/cycle route; and
- Proposal to close section of Pentrebane Road, to its junction with Crofft-y-Gennau Road and St... Brides Road. This will re-route vehicular traffic through the site and allow the creation of a strategic cycle route along Pentrebane Road and Crofft-y-Genau Road.

4.29 The movement strategy focuses on the provision of a Main Street following the alignment of the ‘horseshoe’ topography and linking the various facilities. Following the topography will create a route that is inclusive for all users with options to divert form this route along a lower order hierarchy that deals with steeper gradients. This will also promote the use of the proposed cyclepath within the Main Street by all users.
4.30 The development proposals have also been influenced by “Manual for Streets” which encourages designers to move away from standardised prescriptive measures and adopt a more innovative approach in order to create high quality places for all users, ages and abilities. A hierarchy of streets not only provides for the necessary vehicle circulation but also allows for footpath and cycleway connections with the wider area in order to assist in the creation of an integrated movement network. The street typologies that define the masterplan are:

- **Main Street** – this street provides access around the development. The proposed carriageway is designed to permit buses and provide appropriately positioned bus stops to be within 400m walking distance of all dwellings. This street will accommodate the great majority of development traffic with access dispersed over five main access points providing integration with the existing road network. The street utilises existing features such as existing trees and hedgerows and topography to inform its alignment. The Main Street is regarded as a “set piece” in the development in order to provide structure and legibility. Street traffic calming will be located at appropriate distances. This will predominately involve changing the side of the street to contain tree planting so that the carriageway is deflected and include greenspaces so that traffic has to slow down to move around and introduce speed reducing bends etc. The character and width of the main street will vary depending on its location and function within the development, the cross sections shown show the different ways to layout the position of the carriageway, footpaths and cyclepaths etc.
DESIGN PROPOSALS 04

PLASDWR | DESIGN AND ACCESS STATEMENT

6.1M CARRIAGeway

VERGE

CYCLEPATH

FOOTPATH

VERGE

CARRIAGeway TO
ACCOMMODATE TRAM
TRAIN

VERGE

FOOTPATH

VERGE

OPTIONAL PARKING

VERGE

OPTIONAL PARKING

VERGE

FOOTPATH

FOOTPATH

CARRIAGeway

CYCLEPATH

FOOTPATH

MAIN STREET OPTION
• Quiet Streets - these streets provide access within the development and linkages with the main street. They are designed to promote low vehicle speed to allow spaces to be shared by a number of users and create a sense of greater enclosure due to their decreased corridor width. They will consist of a footway to one or both sides of the road. They provide choice in terms of routes for drivers, pedestrians and cyclists. There will be opportunities for on street parking to add activity to the street scene and provide efficient and convenient parking locations for visitors and residents..
• Shared Surface Areas/Home Zones – these streets are designed to promote low vehicle speed to allow spaces to be shared by a number of users and create a sense of greater enclosure due to their decreased corridor width. These streets will have on street parking and traffic calming measures thereby aiming to strike a balance between vehicles and other street users. They provide choice in terms of routes for drivers, pedestrians and cyclists. A holistic, traffic calming approach to creating these pedestrian friendly residential environments will bring a range of social and community benefits, ultimately improving the quality of life of local residents. The aim is that the traditional distinction between the carriageway and footways is removed and that the street as a whole becomes an extension of the local community’s living space.

• Private Drives – these lower category streets will predominately run along the perimeter of the development parcels where one-sided development occurs. They provide direct plot access to a limited number of dwellings.
PARKING

4.31 For residents, the bicycle should be the most readily accessible mode of transport. Adequate room must be provided for cyclists and cycles when using the parking provided. All cycle parking should be secure and well lit (where applicable) and natural surveillance to aid personal security. Within key public spaces, secure cycle parking and storage should be provided. This includes at the points of entry into the local centre and the primary school.


4.33 Adequate on-street parking will be provided and located close to dwellings and distributed efficiently over the site to cater for visitors. On-street parking will be designed with planting and add activity to the street scene. The on-street parking will also form traffic calming. By designing the on-street parking locations from the outset, the impact of car parking on the street scene is minimised.

4.34 Many of the new dwellings will be served with on plot parking generally located to the side, front or rear of the dwelling. Innovative solutions for parking should be explored to allow efficient parking and making efficient use of land. The parking standards should ensure congestion is minimised on the street. Parking spaces and garages should be sited so that there is sufficient room for users to enter and exit the vehicle. The distance from the car parking space to the home should be kept to a minimum and should be level or gently sloping.

4.35 Where courtyard parking occurs they should serve a few dwellings, include landscaping and create a private well defined area with good surveillance from dwellings giving the court its own sense of place. Parking in these courts should also be provided so that parking is convenient for the user to promote use. There should be only one vehicular access point preferably through the building line. These areas will be overlooked by properties in order to increase perceived and actual safety.
**TOPOGRAPHY AND DESIGN**

4.36 The topography of the site is unique and is one of the components that creates the site’s ‘sense of place’ and distinctiveness. It presents opportunity to create landmark buildings and provide views in and out of spaces. The topography also acts as a constraint to some forms of movement and how buildings and streets are placed within the landscape.

4.37 The plan opposite shows how the proposed walking and cycling routes have been aligned to work with the topography and create a hierarchy. The cyclepath that follows the main street sits along the ridge lines and maximises the level land creating a route that is accessible by all users. There are then further routes that cross through the centre of the site creating links in different directions and traveling along steeper gradients. These offer alternative routes as well as more interesting cyclepaths for leisure use and people wanting to utilise cycling for fitness and recreation instead of commuting.

4.38 The section below shows how different gradients of land create various design solutions. On the steep areas of land the streets will predominantly run along the corridors and only create design constraints when traveling up and down the contours. In some areas this may require the use of split level housing to deal with the gradients. These design solutions should create areas that work with the topography and create unique places that are distinctiveness to other parts of the development.
MIXED USE AREA CATCHMENT - 95%

NATURAL GREENSPACE CATCHMENT - 74%

PUBLIC TRANSPORT CATCHMENT - 99%

FORMAL RECREATION CATCHMENT - 95%

PLAY AREA CATCHMENT - 85%

SECONDARY SCHOOL CATCHMENT - 98%

DESTINATION PLAY AREA CATCHMENT - 55%

PRIMARY SCHOOL CATCHMENT - 95%

TEEN FACILITIES CATCHMENT - 50%
GENIUS LOCI – CREATION OF THE PLACE: NEIGHBOURHOODS

“Part of the urban design is the ‘genius loci’, the prevalent feeling of place. Perceptions of a place are made up of layers of understanding – the settlement in the landscape, its overall structure, the district, the street, the building. They arise from understanding the physical and human geography, the history and morphology of past uses, the natural landscape and buildings, both on a site and around it.”

(Urban Design Compendium)

4.39 Plasdwr is strongly influenced by the existing topography, landscape setting and the layout of the streets. A neighbourhood is a district or community within a town and is defined by the area surrounding a place and the proximity to the centre point of that place.

4.40 Based on the principle of walking and cycling, the new residents should naturally attract to each of the mixed use areas with collocated schools and this focus/facility should provide the basis for the creation of new communities and neighbourhoods. This naturally generates the four new neighbourhoods in Plasdwr that are also separated by natural features. Each neighbourhood will be defined by a mix of uses and building types, landscape features and a network of routes. The character areas seek to add another layer of information to create distinctive and memorable places.

ACCESSIBILITY AND SUSTAINABLE STRUCTURING

<table>
<thead>
<tr>
<th>Local Facility</th>
<th>Target Walking Range</th>
<th>Distance Source</th>
<th>% of 7,000 dwellings within range</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Centre and/or Local Centre</td>
<td>800m</td>
<td>Manual for Streets (4.4.1)</td>
<td>95%</td>
</tr>
<tr>
<td>Essential shops and social and community facilities.</td>
<td>800m</td>
<td>Principle 4 Cardiff Masterplanning Framework (MAY 2014)</td>
<td>95%</td>
</tr>
<tr>
<td>Natural greenspace</td>
<td>300m</td>
<td>Analysis of Accessible Natural Greenspace Provision in Cardiff (2008)</td>
<td>74%</td>
</tr>
<tr>
<td>20ha natural greenspace site</td>
<td>2km</td>
<td>Analysis of Accessible Natural Greenspace Provision in Cardiff (2008)</td>
<td>100%</td>
</tr>
<tr>
<td>100ha natural greenspace site</td>
<td>5km</td>
<td>Analysis of Accessible Natural Greenspace Provision in Cardiff (2008)</td>
<td>100%</td>
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<tr>
<td>500ha natural greenspace site</td>
<td>10km</td>
<td>Analysis of Accessible Natural Greenspace Provision in Cardiff (2008)</td>
<td>100%</td>
</tr>
<tr>
<td>Sport Pitches</td>
<td>1,200m</td>
<td>Fields in Trust</td>
<td>95% (100% when including use of school grounds)</td>
</tr>
<tr>
<td>NEAP (Destination Playground)</td>
<td>600m</td>
<td>Fields in Trust and LDP Greenspace Landscape Principles</td>
<td>95%</td>
</tr>
<tr>
<td>Children’s Play provision</td>
<td>400m</td>
<td>LDP Greenspace Landscape Principles</td>
<td>85%</td>
</tr>
<tr>
<td>Teen Facilities</td>
<td>600m</td>
<td>LDP Greenspace Landscape Principles</td>
<td>85%</td>
</tr>
<tr>
<td>Primary School</td>
<td>800m</td>
<td>BREEAM Communities</td>
<td>95% (100% when including existing schools)</td>
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<tr>
<td>Secondary School</td>
<td>1,500m</td>
<td>BREEAM Communities</td>
<td>98%</td>
</tr>
<tr>
<td>Public transport services.</td>
<td>400m</td>
<td>Principle 4 Cardiff Masterplanning Framework (MAY 2014)</td>
<td>99%</td>
</tr>
</tbody>
</table>

[400m is equivalent to 5 min walking time]
GENIUS LOCI – CREATION OF THE PLACE:
CHARACTER AREAS

4.43 Within these neighbourhoods there will be differing character areas. Depending upon their characteristics, these character areas will either help distinguish between the different neighbourhoods or, where applicable, will provide for continuity. For example, elements of the character along the Main Street will provide continuity between the neighbourhoods. By contrast, Plasdwr Square and the Dense Village Grain area will distinguish the neighbourhoods.

4.44 Character areas have been defined within the development that will help to achieve the creation of a successful place and also provide design cues for architectural style and design that will come together to create a unique, distinctive and memorable place. These eleven character areas have naturally evolved through the design process. The Character Areas plan also shows a series of Key Public Spaces, Secondary Nodes, Green Nodes and areas of Highway Character Change.

4.45 There are four Key Public Spaces. These are:
- Plasdwr Square;
- Pentrebane Farm
- Western Square
- Llantrisant Road Square

4.46 There are also Secondary Nodes that act as a series of smaller spaces creating legibility and variety to the built form. These spaces are predominately more hard landscaped spaces or squares forming focal points for the new community and providing traffic calming and interest. Whilst accommodating movement, these nodes will have an important amenity function as meeting places promoting community interaction.

4.47 The Green Nodes are designed to incorporate more planting, seating and/or focal trees and a softer character. The areas of highway character change along Llantrisant Road are highlighted as key entrances into the development and potential areas where pedestrians and cyclists will cross the road thus requiring a reduction of traffic speeds and increase of driver awareness.
Character Area 1: Main Street

- Main focus of movement through the site;
- Connects neighbourhoods;
- Formal grid layout;
- Perimeter blocks with strong building lines and continuous frontage;
- Predominantly narrow buildings sit formally along the street with some vertical emphasis and rhythm;
- Increased height and density compared to other character areas, scale of frontage commensurate with a main movement corridor;
- Opportunity for some 4 storey on street corners or to terminate vistas;
- Strong avenues with formal tree planting, on street parking and formal squares;
- Strong palette of colours for focal buildings or at key spaces;
- High degree of permeability and legibility;
- Strong vistas and landmark buildings;
- Street corners emphasised;
- Residential units will have clearly defined blocks and be provided with sufficient car parking through on-plot, and where appropriate, on-street parking solutions depending upon specific requirements.
ILLUSTRATIVE SECTION THROUGH DISTRICT CENTRE PROPOSALS
Character Area 2: Plasdwr Square

The smallest centre of the masterplan, the square has a small convenience and commercial area dominated by the primary school that aims to be used as a community facility out of school times. Smaller in scale the square will be primary for inhabitants rather than visitors. The centre links to a children’s play area to the north.

- The main centre is located to the east of the masterplan, the central square is framed by the community building that sits and opens on to it and the mixed use of shops, cafes and a public house that spills out on to it. Parking is hidden behind the buildings on the square to allow the dominance of pedestrian cyclist, tram and bus stops that connect the area directly and quickly to the city centre and junction 33.
- The topography and landscape are a prominent feature, the fall to the south is reminiscent of the traditional South Wales valley town and the terrace houses that cling to it. A direct link to the ancient woodland and new landscape loop encourages outdoor activity and reminds the users of the location with reaching views towards the city.
- Residential to be mixed into ‘layering’ of other uses to create activity and height;
- An identifiable “place” with recognisable features and elements, routes and destinations;
- Public square located on a key intersection of routes;
- The square must be designed based on the principles of shared space;
- Iconic buildings will reflect their importance through design;
- A distinctive character will emerge through a pattern of development emanating from walking, cycling and bus/tram journeys;
- People walking dominate the streetscape and the cycle, bus/tram is pre-eminent;
- Most densely-developed area;
- Series of ‘smaller’ spaces between buildings and linked together providing alternative ‘journey’ around perimeter of main square;
- Perimeter blocks with strong building lines and continuous frontage;
- Street corners emphasised and the creation of a tall building that stands out above the neighbouring built form creating a local landmark;
- Active frontage onto the street and good enclosure through intensity of development; and
- Bigger boxes such as foodstores and leisure centres to be wrapped by other uses to maintain active street frontages as seen with the Waitrose in Cowbridge or Morrisons in Lawley, Telford.

ILLUSTRATIVE VIEW OF DISTRICT CENTRE PROPOSALS
TRAM DROP OF WITHIN THE NEW SQUARE

WATER

GREEN LINKS

SCHOOL + COMMUNITY BUILDINGS

NEW SQUARE

HIGH DENSITY BUILDING AND CIVIC LANDMARK

VEHICLE ROUTES

AERIAL VIEW OF DISTRICT CENTRE PROPOSALS
Character Area 3: Dense Village Grain

4.49 The listed farm house and barns are central to the area, they are to be restored and brought back into use. The centre is to retain an agricultural/county park feel. A connection to St. Fagan’s is to be explored and embedded into the proposal. The barns are to become either commercial farm shop or community hall, with a theme of cafés, restaurants and shops that complement the farm. Reaching views across the valley to the south in both directions ensure that the settling of the listed structures are framed and enhanced. The square is pedestrianised with the tram allowing visitors and inhabitants to alight directly into its heart.

- Pentrebane Farm to become main focus of mixed use centre;
- Streets based on village concept of ‘non engineered’ street design with precedents taken from denser parts of St. Fagan’s and Llandaff;
- Shared space around Pentrebane Farm;
- Disjointed grid layout;
- Irregular setbacks and building frontage at slight angles to carriageway creating different street widths;
- Front doors onto streets, network of open spaces, roads, shared surface streets and pedestrian spaces, which provide a sense of scale and intimacy.
- Area should move away from traditional highway specifications to an urban village approach where car parking and garaging is provided in private driveways, shared courtyards and narrower lanes.
- Different types of building typologies sit within street;
- Varied eaves and ridge heights;
- Local vernacular is to be conveyed either in a traditional style or as a contemporary interpretation;
- Variety of vernacular materials and building details used in traditional or contemporary style;
- Retained view to Listed Farmhouse from the south;
- ‘Natural’ palette of colours and materials that fit in with landscape context;
- High degree of permeability and legibility;
- Residential units will have clearly defined blocks and be provided with sufficient car parking through on-plot, and where appropriate, on-street parking solutions depending upon specific requirements.
ASPIRATIONAL IMAGE OF WALLED GARDEN/ALLOTMENT

POTENTIAL FOOD CENTRE WITHIN REFURBISHED BUILDINGS

NEW BUILD FOLLOWING PRINCIPLES OF LONG BARNs

ILLUSTRATIVE VIEW OF PENTREBANE FARM PROPOSALS
PENTREBANE FARM: RENewed DESIGN PRINCIPLES

4.50 Upon the completion of the proposed development, Pentrebane Farm will form the focal point of a key local centre (mixed use and community facilities) in the south west of the Plasdwr development. The parameter plans and scheme proposals have been devised to provide flexibility sufficient to ensure that the economic and social viability of this local centre can be determined at a later stage in the determination process, whilst providing adequate commitments to respect the fabric and character of the farm.

4.51 In order to ensure that there is sufficient detail to assess potential impacts on the designated and non-designated heritage assets at Pentrebane Farm, a Refined Design Principles Area has been defined (see parameter plan R.0319_17E-7). This area and the principles to which they relate, will form the reference of any full planning application, change of use and/or listed building consent applications which follow in due course. Therefore, in order to provide a robust assessment of the outline planning application, the following principles have been assumed for Pentrebane Farm:

4.52 Preservation/enhancement of the outward character and/or special interest of the three Grade II listed buildings:

• Restricted removal of the existing historic fabric of the farmhouse - to be limited to areas/aspects of the building which contribute least to, or detract from, its significance;

• Substantive improvement to the structural viability and condition of the farmhouse and the north wall of the walled garden (to be informed by a structural and condition survey);

• Archaeological investigation of the walled garden, in order to define its original historic plan form and materials palette, and to inform proposals for its conservation/ restoration;

• Proposed demolition of identified modern agricultural outbuildings of no significance (see demolition parameter plan);

• Retention of those historic outbuildings identified as being curtilage listed and which contribute to both the setting of the three listed buildings and the historic character or the farm complex as a whole (as identified on the demolition parameter plan),

• Incorporation of these retained (curtilage listed) farm buildings as focal elements within the new local centre, in order to provide it with a sense of place and also to maintain local character and distinctiveness.

4.53 Change of use of the retained outbuildings - including the farmhouse and Grade II listed barn - from agricultural to community, office, small scale retail and residential uses;

4.54 Consideration of the key aspects of the setting of the farm. These are to be confirmed, but are likely to consist of:

• Retention of an open and informally arranged ‘green corridor’ between Pentrebane Road and the south-facing elevation of the farmhouse, in order to maintain characteristic views of this listed building from the public thoroughfare and fringes of St. Fagan’s in the south; and

• Retention of the woodland and open space to the north of the farm;

• Sympathetic siting of development in the vicinity of Pentrebane Farm. The siting, layout, height/ scale, mass, form and architectural treatment of the proposed buildings will be - sympathetic to the scale, character and historic fabric of the listed buildings and retained farm structures;

• Retention and enhancement of the garden and walled garden to the south and east of the farmhouse, in order to strengthen the historic inter-relationships between these three features.

The above principles would ensure that the conversion and re-use of the buildings in the context of the strategic urban expansion can be seen as the most sustainable way to secure the preservation and future of these designated heritage assets.

4.55 In terms of the wider setting of the listed buildings, it is considered that the above principles will help to maintain the key aspects of setting, preserving the key values of the significance of Pentrebane Farm in the context of the strategic urban expansion.

4.56 The emerging LDP expects the delivery of 5,000 dwellings from Plasdwr in the period to 2026. It is envisaged that proposed works at and around Pentrebane Farm would come forward towards the end of the Plan period (2026), but not beyond. Therefore in the short to medium term (and subject to economic viability), existing agricultural and equestrian uses will be maintained within the farm buildings as these reflect both the historic uses and provide an effective level of security against potential trespass/vandalism. During this period, and prior to Reserved Matters applications and development of the complex as a new local centre within the Plasdwr development, proposals will focus on measures to ensure that the historic value is preserved through a programme of further assessment, repairs and monitoring/reporting. Within the determination period for the main application and in the period prior to the integration of Pentrebane Farm within the Plasdwr development, the proposals are therefore anticipated to include alterations and a full suite of repairs and restorative actions intended to remedy the long term degradation evident in the building’s fabric and secure its long term conservation in a sound and stable condition.
Character Area 4: Western Quarter

The new centre to the west is characterised by the ancient woodland which comes into the square. The community hall also sits on the square with primary school and commercial uses completing it – the tram stops close to the retail edge, and the centre links to the both north south cycle highway and the old railway cutting that links to the east centre and Cardiff. The secondary school shares the community hall and will provide quality sports facilities for the community. A cycle/ pedestrian link through the woodland links the to the larger centre to the east of the woodland. Reaching views across the landscape will be a feature of this area.

- Buildings arranged around a central linear space;
- Secondary school, primary school and other buildings to be ‘unified’ through landscape and building design;
- Gather spaces away from main traffic movement provided to allow children, parents and residents to arrive, meet and leave in quieter areas;
- Mixed use frontage to take advantage of orientation and sunlight;
- The design of the main school entrances to be designed and coordinated so that they interact seamlessly with the strategic pedestrian/cycle routes;
- Residential to be mixed into ‘layering’ of other uses to create activity and height;
- An identifiable “place” with recognisable features and elements, routes and destinations;
- The square must be designed based on the principles of shared space;
- Iconic buildings will reflect their importance through design; and
- Active frontage onto the street and good enclosure through intensity of development.
Character Area 5: The Park

- Green entrance from Llantrisant Road;
- Detached large buildings fronting central linear space conceptually akin to Roath;
- Architecture sits in a generous landscape setting;
- Direct cyclepath routed through greenspace separated from carriageway by planting;
- Water within wet attenuation basin creates the entrance to the development from Llantrisant Road;
- Primary school building and mixed use centre act as focal points and different building typologies to the space;
- Landscape design of greenspace to be carefully considered to integrate play, planting and earth sculpturing so that space feels unified and ‘in scale’; and
- Gather space provided near school and away from main traffic movement to allow children, parents and residents to arrive, meet and leave in quieter areas.
Character Area 6: Maes-Y-Llech

• Existing farmhouse and outbuildings to create distinguishable character to this area;
• Identifiable space to front of farmhouse with focal trees;
• Irregular setbacks and building frontage at slight angles to carriageway creating different street widths;
• Front doors onto streets, network of open spaces, roads, shared surface streets and pedestrian spaces, which provide a sense of scale and intimacy;
• Different types of building typologies sit within street; and
• Variety of vernacular materials and building details used in traditional or contemporary style.
COMMUNITY PARK/PLAY AREA

NEW JUNCTION AND 'SPACE' ON LLANTRISANT ROAD

PRIMARY SCHOOL SHARED COMMUNITY FACILITIES (SCHOOL HALL)

WESTERN QUARTER PROPOSAL
Character Area 7: Llantrisant Road Place

- A new space on Llantrisant Road to change the character;
- This space will act as a gateway and provide the transition of character from the more open land in the west to the start of Cardiff’s settlement boundary;
- Mixed use, primary school and residential will provide the frontage to the new space just off Llantrisant Road;
- Public parking for retail to front of buildings;
- Separate quieter space for school children and parents;
- The space provides opportunity for landmark architecture and public art;
- Strong building lines and linear forms;
- Massing and heights increase at corners or to terminate vistas;
- Higher densities and building heights;
- Stronger colours and contemporary materials appropriate; and
- Axial link to district centre.
Character Area 8: Hillside Urban

- Unique opportunity presented by the topography to create a development characterised by steep topography and stepped building arrangements;
- High density grid layout and symmetry;
- Main streets will run broadly parallel with contours to maximise accessibility for all users. Secondary streets, particularly when these are not intended for adoption, can run up the contours. Where this occurs, the design of the highway should be integrated with the adjacent block and plot design to maximise accessibility;
- Contemporary feel;
- Architectural repetition with limited typologies;
- Some use of split level housing to deal with levels;
- Parking predominantly within integral garages or to the front of buildings to allow rear of building to act as retaining;
- Public spaces with stepped transitions which positively respond to and address the fall of the land from north west to south east to create plateaus;
- Buildings should be provided around the block perimeter to define the public realm (streets, squares etc) from the private realm (rear gardens); and
- Changes in levels will be accommodated within the front and rear gardens where possible.
Character Area 9: Hillside Garden

- Unique opportunity presented by the topography to create a development characterised by steep topography and stepped building arrangements;
- Lower density with larger dwellings;
- Main streets will run broadly parallel with contours to maximise accessibility for all users. Secondary streets, particularly when these are not intended for adoption, can run up the contours. Where this occurs, the design of the highway should be integrated with the adjacent block and plot design to maximise accessibility;
- Some use of split level housing to deal with levels;
- Topography allows for trees to be viewed through gaps between buildings creating a softer character to the stepped street arrangement;
- Sensitive positioned buildings will allow for glimpsed views from front and rear of properties over rooftops;
- Parking predominantly within integral garages or to the front of buildings to allow rear of building to act as retaining;
- Green spaces with stepped transitions which positively respond to and address the fall of the land from north west to south east to create plateaus;
- Lower density and greener feel than Hillside Urban Character Area; and
- Changes in levels will be accommodated within the front and rear gardens where possible.
Character Area 10: Garden Quarter

- Adoptable highway minimised so that front gardens are a key characteristic;
- Predominately two storey domestic scale;
- Parking to be predominately to the side or front of dwellings;
- Incidental green spaces with room for street trees;
- Area to be pedestrian and cycle friendly where cars, pedestrians and cyclists get more or less equal use of the roadspace and traffic speeds are kept low;
- Public areas will be clearly defined through the use of consistent boundary treatments, primarily hedgerows.
Character Area 11: Village Quarter

- Buildings will not formally follow the street as within other character areas with more sides of houses to street and the juxtaposition of dwellings forming interesting spaces and informal character to the streetscape;
- Lower building densities and heights;
- Front gardens should also be prevalent with dwellings set further back from the pavement and varying changes in enclosure created;
- Mature planting will be allowed to be established within and between the blocks of buildings with opportunity for flowering trees/orchard planting;
- This area will have more landscaping defining plot boundaries and along streets with less extent of hard surfaced areas;
- The hard built form will be interspersed with greenery in the same way as seen in the existing villages;
- Colours generally muted;
- Simple high quality open space comprising grass (short and long) and range of tree planting and hedging;
- Streets to be mostly small scale and informal, especially on the development edge.
DENSITY, HEIGHT & KEY BUILT FORM

4.59 The development proposals achieve an average density of approximately 40dph which ensures the efficient use of land while providing a balanced approach to housing and greenspace. The density will vary across the development with higher densities concentrated around the community facilities and along the main street where a greater population will be within shorter walking distances of shops or bus stops etc. Lower densities will be found within the village character areas and to the south west of the site approaching St. Fagan’s. Lower densities will also be found. These lower density areas will also benefit from increased landscaping.

4.60 The predominant scale of the development will be two storey. This predominant two storey scale will relate to the existing built form of the immediate area and the site’s location to the edge of a city. Increased scale would be beneficial within the mixed use areas to increase legibility and create focal points. In these areas there is an opportunity to create an increased scale due to the potential bigger storey heights and roofs. Buildings with differing architectural style will create landmarks in prominent positions. Taller units will be proposed within Plasdwr Square, Western Quarter, Llantrisant Road Place and Main Street. Plasdwr Square has the opportunity to site a significantly taller building that can been seen above the roof scape and acts as a landmark.

4.61 One of the most notable aspects of the Proposed Development will be the range and quality of new landscapes created. Not only will landscape provide the setting for buildings in a natural context but also an opportunity for buildings to respond positively to the natural environment.

4.62 Sections of the master plan area are particularly prominent and critical to the impact and appearance of the development and the public realm. Attention will need to be paid to the treatment of buildings fronting, or adjacent to, open spaces and squares to ensure that these prominent spaces have a building frontage, which helps to create a distinctive quality and character.

4.63 Secondary frontages will be composed of simpler architectural detailing than the primary frontage but will incorporate architectural detailing and a variety of materials to define their role as important elements of the built environment.

4.64 Careful detailing of architecture is important to lift the simple palette of good quality materials. Quality of materials, detailing and workmanship will ensure a locally distinctive feel to the housing. Linked with good landscaping and boundary treatment will ensure the vision of the masterplan is realised. Examples of this should include:

- Simple building form;
- Attention to simple detailing to window heads, cills, canopies and roof eaves details;
- Simple variation in building materials and colours;
- Attention to building proportions with regards to windows and storey heights;
- Variations in roof materials and roof orientation to give varied street scene;
- Variations in detail of junction between building and ground level; and
- Variations in privacy setbacks from public realm.

4.65 Landmark buildings, focal points and a clear hierarchy of routes and intersections will increase the legibility of development. Legibility refers to the degree to which people can understand and identify with the built environment. Building and layout design, planting and views will be utilised to form visual focal points and create legible routes.

4.66 A variety in the heights and massing of the residential buildings, will be achieved through the use of a range of house types and sizes ranging from smaller 1 bed units to 4 bed plus bedroom houses. This range of house types will also affect the massing by providing a change in the eaves and ridge height creating subtle changes in scale.

4.67 There are specific locations shown on the accompanying plan where key ‘landmark’ buildings will be located. These locations are at the termination of vistas, development entrances or within key spaces. The inclusion of these buildings or structures with increased scale or distinctive differing architecture will add variety and interest to the appearance of the development, provide points of focus within it and help people find their way round the site. There will be opportunities for the inclusion of other, smaller landmark buildings within the development.

4.68 The key and landmark buildings may also provide opportunities for good contemporary design, in contrast to the more traditional style that will be adopted in the majority of the development. Landmark buildings should reflect local character and whether contemporary or more traditional in design, the architecture must be of good quality. Landmark buildings are identified that should be designed to be distinctive. They can be designed utilising variations in materials, colours, frontage treatment and architectural styles and do not necessarily dictate the need for increased height. Buildings that are key corner turns will also become focal points and should also provide animation and surveillance to both sides of the building facing the public realm.

4.69 Key frontages will be particularly prominent and critical to the appearance of the development. Particular attention will be paid to the massing and architectural style of the buildings framing key open spaces and streets to ensure these buildings have frontages that would contribute towards creating a unique and memorable experience of distinctive quality and character.

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**LANDSCAPE DESIGN**

4.70 The green infrastructure is a key characteristic of the site and landscape design will be a key component for creating a successful development at Plasdwr. The green spaces are an integral part of the place and create a strong landscape structure across the site. The new green infrastructure has been a driving factor in the creation of new routes and spaces within the masterplan and the landscape helps to further define the public and private space whilst adding colour, water and seasonal interest to the residential environment.

4.71 The existing woodland blocks and former railway lines form a valuable opportunity and the proposed strategic open space network seeks to link these together as part of a network of ecological and recreational resources.

4.72 The green infrastructure framework will include a network of green spaces including informal open space and play areas, new parks, playing fields, strategic planting and managed woodlands, retained views (including setting of heritage features) and leisure routes (cycling and walking). Where possible, the development will accord with relevant standards in relation to the provision of open space, sports pitches and children’s play space in proximity to people’s homes. The green infrastructure will also be designed to incorporate Sustainable Drainage Systems (SUDs).

4.73 The development shall incorporate green spaces and play areas within and between the proposed communities. The development will accommodate the following:

- Formal recreation space to include sports pitches predominantly provided to the south west of the site to form a buffer between new development and existing development at St. Fagan’s. The sports pitches to the south will be set within parkland or natural settings. In the northern half of the site new greenspace and formal recreation will be accommodated alongside the existing large woodland block areas that are to be retained. This will link with the existing ground at Fairwater Leisure Centre;
- There will also be some dual use of sports pitches within the primary and secondary schools;
- Existing woodland blocks with new public routes and increased public access, these woodland blocks also have the potential for formal and informal recreation;
- Existing woodland blocks with controlled access to promote biodiversity;
- An allotment will be sited within the Pentrebane Farm Local Centre Site and a further allotment will be sited close to the larger district centre;
- Marshy grassland with boardwalks to allow access;
- Local Equipped Areas of Play (LEAP) – providing formal play for a range of age groups;
- Local Landscaped Area of Play (LLAP) – providing informal play for a range of age groups;
- Neighbourhood Equipped Area of Play (NEAP) - Neighbourhood equipped areas for play – providing play and informal recreation. It is an area of open space specifically designated, laid out and equipped mainly for older children but with play opportunities for younger children as well;
- Attenuation areas designed as parkland, semi natural greenspace or permanent water bodies;
- Small ‘key spaces’ that could include seating and provide informal play;
- Connected pedestrian that could also include trim trails connecting the green spaces and providing opportunities for walking and exercise;
- Natural greenspace;
- Semi-natural and amenity greenspace;
- Facilities for children and young people.

4.74 Recreational opportunities for the existing and new community are key to the successful creation of an integrated development. These spaces are located throughout the development with walking distances to sports and play based on the Fields in Trust (FIT) guidelines. Where appropriate, LAPs will be co-located with the LEAPS to prevent a large number of play areas being provided that are less well maintained and less used then a few larger areas. Eight LEAPs or LLAPs are provided along with two NEAPs to cater for the new development. The LEAPs will offer more formal play with areas equipped with play equipment. The Local Landscaped Area of Play (LLAP) will provide an area for play based on more natural play.

**NEW PATHS THROUGH WOODLAND**

**POTENTIAL USE OF COED-Y-GOF OR COED-Y-TRENCHES FOR WOODLAND ACTIVITIES**

**ASPIRATION FOR BOARDWALK ROUTES THROUGH LOWLAND FEN**

**NEW AND EXISTING SPACES WITHIN AND NEAR WOODLAND STRUCTURE**
MOUNTAIN BIKE ROUTES, WITH THE OPPORTUNITY FOR INSTALLING SKILL TESTS WITH LEVEL CHANGES, BOULDERS, OR TILTED BOARDWALKS

WOODLAND CIRCULAR WALK FOR PEDESTRIANS

5M WIDE SHARED PEDESTRIAN / CYCLEPATH AWAY FROM VEHICULAR TRAFFIC

WETLAND AREAS TO FORM PART OF THE SUDS SYSTEM

LINKS TO WIDER GREEN INFRASTRUCTURE

CENTRAL HUB PROVIDING LINKS TO THE WIDER GREEN INFRASTRUCTURE, ALONG WITH VISITOR INFORMATION, BICYCLE HIRE AND REFRESHMENT OPPORTUNITIES

LOCAL EQUIPPED AREA FOR PLAY (LEAP)

WOODLAND PLAY TRAIL LINKING THE LEAP AND CENTRAL HUB - PLAY ELEMENTS / SCULPTURES WILL BE LOCATED ALONG THE ROUTE

VISITOR CENTRE AND CAFE

EDUCATIONAL OPPORTUNITIES TO LEARN ABOUT WOODLAND ECOLOGY

TILTED BOARDWALK FOR MOUNTAIN BIKERS

INDICATIVE PLAY ELEMENTS FOR THE LEAP

BOARDWALK OVER THE MARSHLANDS

MARB即便是 POINT AND INFORMATION BOARD

INFORMAL ROUTE FOR RECREATION

INFORMAL ROUTE FOR RECREATION

TRAFFIC FREE CYCLE ROUTE

DISUSED RAILWAY ROUTE, RETAINED AS A SHARED PEDESTRIAN/CYCLEPATH AWAY FROM VEHICULAR TRAFFIC

FEN/MARSHY GRASSLAND TO BE PROTECTED AND ENHANCED - RAISED BOARDWALKS WILL PROVIDE ACCESS AND VIEWING OPPORTUNITIES

LINKS TO WIDER GREEN INFRASTRUCTURE
ILLUSTRATIVE SKETCH PRINCIPLES FOR COMMUNITY WOODLAND
GREEN LINKS LOWLAND FEN

EXISTING WOODLAND

ST. FAGAN’S BUFFER

ECOLOGY LINK

FORMAL RECREATION

"ECOTONE"

EXISTING ASNW/SINC WOODLAND

ZONE FOR ACCESS, SUDS FEATURES, HABITAT (COMMUTING, FORAGING ETC), FOOD FOR POLLINATORS

SHRUBBY LAYER

LONG GRASS/ WILDFLOWER

"NO-DIG" EARTH HOGGIN PATH

PRIVACY SHARED SPACE/ACCESS TO FRONTS

BOUNDARY TREATMENT

FRONT OF DWELLING

INDICATIVE 5M FROM CANOPY (SURVEYED) TO CENTRE OF TRUNK

INDICATIVE 10M BUFFER FROM CANOPY (SURVEYED) TO DEVELOPMENT EDGE

~4.5M HARD DRIVEWAY

~2M FRONT GARDEN

15M DEVELOPMENT BUFFER (EQUATED TO MAXIMUM RPA)

RELATIONSHIP OF WOODLAND TO DEVELOPMENT ILLUSTRATION
Woodland bocks, hedgerows and trees will be retained and incorporated into the development where possible. Many will be retained in their entirety whilst others will be retained except where access breaks are required. Those hedgerows and trees that are to be removed are largely focused in the north and north-east of the site, where the ground re-profiling to allow for the proposed district centre does not allow for their retention. There will, however, be many opportunities to replace any hedgerows lost elsewhere within the development site.

With reference to the LDP Masterplanning Framework, there are two general Principles in relation to ecology that are:

- **General Principle 8, Connected strategic green open spaces:** Multi-functional and connected green open spaces form strategically important links to the surrounding area to provide routes for people and wildlife and open spaces for sports, recreation and play.
- **General Principle 9, Landscape, biodiversity and heritage:** Sympathetically integrate existing landscape, biodiversity and historic features of the site into the development taking opportunities to protect, enhance and manage important features along with mitigation and enhancement measures to provide satisfactory compensatory measures.

The following opportunity objectives were received from Cardiff Council during the pre-application:

- Provision of semi-natural greenspace in the form of parks, field margins, hedgerows, screen planting etc may provide habitat and habitat connectivity for certain species;
- Habitat connectivity as above can be strategically planned to provide robust habitat corridors, instead of retention of smaller, weaker areas of habitat within development. These corridors should offer connectivity both with the site and between the site and surrounding retained habitat;
- SUDS in the form of ponds and wetlands may provide new habitat for certain species such as the Great Crested Newt, as well as feeding opportunities for bats;
- Design of buildings can incorporate habitat features such as bat bricks and tiles, bird boxes, features useful for house-nesting birds such as House Martins and Swifts, and green roofs and green walls;
- Watercourses can be buffered to improve water quality (compared with current agricultural run-off) to benefit Water Voles and Freshwater Crayfish;
- There is the opportunity to strategically plan receptor sites for e.g. reptile species translocated from proposed development sites;
- Dropped kerbs and offset gulley-pots can be built in to road design so as to avoid trapping migratory amphibians; and
- Newly-created roadside verges can offer good habitat to wildflowers, pollinators, reptiles and invertebrates, but only if the management/mowing regime is appropriate.
ENVIRONMENTAL SUSTAINABILITY

4.78 The applicant is committed to placing sustainable development at the heart of principles establishing the form of the development. It is envisaged that it will deliver high quality built environment whilst protecting and enhancing its natural surroundings. In addition, it will deliver required new homes, additional jobs and regeneration and social benefits for the wider community.

4.79 A series of sustainable design principles will be developed, these are:

- Creating a locally distinctive, sustainable and thriving new community that is well integrated and has excellent connections with Cardiff;
- Assist in realising Cardiff Council’s objectives and aspirations for North West Cardiff (Strategic Site C);
- Provide a mix of high quality housing, diverse employment opportunities and an excellent network of green infrastructure;
- Be planned in a sustainable manner and have regard to the protection and enhancement of built and natural resources; and
- Being locally distinctive and create attractive, usable and adaptable development that meets high environmental standards, is resilient to climate change and optimises opportunities for sustainable transport choice.

4.80 A series of sustainable design principles to robustly deliver these objectives have been developed and tested in the BIA. These principles accord with existing and emerging policy requirements of CC and will:

- Adopt a ‘fabric first’ approach to housing design which reduces energy consumption by highly insulating walls, floors and roofs and which achieves low air-leakage;
- Future-proof individual dwellings to be flexible in their energy connection;
- Reduce waste, provide for the suitable storage of waste and allow for convenient waste collections;
- Achieve the necessary Building Regulation requirements across all units on the site;
- Incorporate renewable or low carbon energy technology where possible;
- Reduce flood risk; and
- Manage surface water run off with no net increase in the rate of surface water.

4.81 It is considered that the Plasdwr development will, based on the above proposed measures, take a positive approach to sustainability. It will implement measures that meet or exceed current UK sustainability indicators across the spectrum of economic, social and environmental issues.

4.82 The approach taken will ensure that the residential built development will be of a high standard in energy efficiency and design terms, reducing carbon emissions wherever possible and meeting or improving on building regulations. The design of the homes will incorporate opportunities to meet future users’ needs in a housing layout that recognises the character of adjacent and nearby properties through urban design. The development will provide access to facilities by way of sustainable transport routes within a high quality, healthy and cohesive community.

4.83 Outwardly the development will be set in a multi-functional network of green infrastructure, which will be critical to quality of place within the development and integrated with existing facilities. This will ensure high quality habitats and wildlife corridors, as well as opportunities to make space for and manage water, and provide a range of formal and informal recreational opportunities.

4.84 In economic terms, Plasdwr will ensure employment opportunities due to the inclusion of a district and local centres and the allocation of significant employment and other commercial development uses. This will encourage inward investment into the area to make use of infrastructure, setting, links to the centre of Cardiff and into the wider area and up to date broadband services. Employment is also expected to be a key issue during construction, with opportunities for local procurement streams, apprentices and those who are not in employment, education or training.

4.85 The development will ensure that resources are used carefully, with materials re-used on site and recycled where possible. Material for the development will be sourced from local provisions and during operation the development will meet stringent recycling targets.

4.86 Through appropriate conditions and agreements and working with statutory authorities, the applicant will be required to work towards the agreed measures in further detailed design and delivery of the proposed Plasdwr development.

INCLUSIVE DESIGN

4.87 Section 5.3 of TAN12 (Design) sets out the issues that need to be taken into account when considering inclusive design within development proposals. Paragraph 5.3.2 of TAN 12 states: “In every area of development earlier and greater attention should be given to the needs of all sectors of society, including older people, children and disabled people. This principle applies to the design of the public realm, to public transport infrastructure and to the location, design and layout of public leisure facilities as well as the design of individual buildings.”

4.88 Paragraph 5.3.5 of TAN 12 proceeds to set out good practice for all involved in the design process as:

- Increasing awareness of inclusivity by all;
- Consulting disabled people and groups representing them;
- Identifying physical and non-physical barriers to access;
- Making adjustments to deal with identified barriers;
- Drawing adjustments to the attention of disabled people;
- Regular reviews of effectiveness.

4.89 Permission is sought in outline with all matters reserved except for access. Specific details regarding inclusivity will be finalised during the reserved matters stage however it is important that the principles of inclusivity are considered at an early stage.

4.90 The scheme has been developed so as to provide inclusive access to all. New pedestrian footpaths are proposed throughout the site to provide an off road route for users of all ages and abilities to move safely through the developments and to existing settlements.

4.91 The topography of the site as existing may present mobility difficulties for those less abled. Where reasonable and subject to viability cut and fill operations will seek to ensure that people of all ability can easily move around the site.
The development will provide homes and open spaces that are flexible, adaptable and convenient for all. The proposed new primary school will be designed so as to allow access and movement to pupils, teachers and parents with disability.

The careful layout of the site, the locating of landmark buildings, navigational signs and direct routes through the development will ensure that movement through the site is easy, logical and effortless. This would allow people with learning difficulties to easily navigate around the site.

The applicant is committed to help eliminate discrimination in the built environment, to establish a sustainable and inclusive community and to ensure that equality of opportunity is available to all.

The development should be flexible enough to respond to future changes in use, lifestyle and demography. This means creating flexibility in the use of property, public spaces and service infrastructure and introducing new approaches to transportation, traffic management and parking. The development should therefore be flexible in order to accommodate future changes of use and circumstances through evolving social, technological and economic conditions.

A sustainable urban drainage system (SUDS) is proposed that incorporates attenuation areas and swales into an interlinked drainage system that will drain the net increase of surface water run off from the new development. This drainage strategy is more beneficial than conventional drainage systems in the following ways:

- Better control of water discharge rates and volumes;
- The attenuation areas will be designed to become attractive spaces;
- Water quality improvement through reduction of pollutants; and
- Increase in biodiversity and facilitation of wildlife habits.

Where appropriate, sustainable building construction techniques will be used in line with current building regulations. Sustainable construction measures typically comprise a combination of the following:

- Improved energy efficiency through siting, design and orientation;
- Water conservation measures;
- Considering fabric efficiency in the design of buildings;
- Use of building materials capable of being recycled; and
- An element of construction waste reduction or recycling.

The design proposals are based on an understanding of best practice and reference has been made to relevant documents including Manual for Streets, Safer Places: the Planning System and Secured by Design Initiative. The development is designed to create an environment which is well designed, attractive, clearly defined and well maintained. People should be able to take pride in their surroundings and feel comfortable and safe and have a sense of shared ownership and responsibility. The development is clearly defined with no ambiguity as to which areas are private, which are public, and how the two relate to one another.

- The development has followed the following principles:
  - Access to the rear of dwellings from public space, including alleys are to be avoided – the Indicative Masterplan shows gardens in the middle of development parcels to ensure this;
  - Routes lead directly to where people want to go;
  - All routes are necessary, serving a defined function;
  - The majority of cars are parked in the curtilage to provide optimum surveillance. The parking courts that will be used should be small and have natural surveillance;
  - Natural surveillance is promoted by ensuring the streets and open spaces are overlooked and well used; and
  - The ownerships and responsibilities for external space will be clearly identified and the proposals will facilitate ease of maintenance and management.

Landscape design is essential to achieve an environment that creates a sense of place and community identity. Landscape design in this context encompasses the planning, design and management of external spaces. Well-designed public lighting increases the opportunity for surveillance at night and sends out positive messages about the management of an area.

Natural surveillance in the form of doors and windows overlooking streets and pedestrian routes and therefore creating activity throughout the day and evening will be essential in creating safe and comfortable routes for the user and discourage criminal activity by increasing the risk of detection.
5.1 Plasdwr will comprise a combination of new neighbourhoods and community uses. The masterplan is founded on the very best practice in urban design, community integration and sustainable development, with strong links to Cardiff City Centre which aims to create a development for the 21st Century.

5.2 The development will respect the site’s landscape setting and also shift Cardiff towards a more sustainable future, through a significant increase in housing, employment and improved public transport. Development will accord with the principles of high quality design and best practice to create a townscape that is rich, varied and sympathetic to its environment. The aim is to achieve a high quality development with a strong identity, activity and a strong ‘sense of place’.

5.3 The vision will be achieved in the following way:

- the creation of an integrated residential community with a sensitive relationship to the existing settlements;
- the need to promote public transport, pedestrian and cycle routes through the development;
- providing a development that is well connected, readily understood and easily navigated, promoting a layout which reduces dependence on the car, whilst enhancing the public transport, cycling and walking networks;
- the protection and enhancement of existing landscape and ecological features, and the creation of a strong landscape and open space structure;
- the creation of a vibrant, lively, mixed-use community and the provision of a range of residential, employment and community uses in response to local need;
- providing a range of dwelling sizes, types and tenures that offers an accessible and acceptable choice of lifestyles; and
- promoting the objectives of sustainable development through layout and design.

5.4 The project is designed so that the development meets housing and community needs over the period to 2026. It is a fundamentally important part of the project to deliver key strategic infrastructure and facilities. Implementation of planning permission can facilitate the delivery of the following key principal benefits:

- New strategic cycle corridors;
- The delivery of significant improvements in the local public transport system;
- The opportunity to secure a new secondary school for the area;
- The delivery of new sports playing fields;
- The delivery of extensive areas of new employment land capable of generating major new job opportunities;
- The provision of a range of new market housing;
- The provision of affordable housing;
- The provision of new primary schools;
- The creation of new circular strategic footpaths and cycleways;
- The creation of new linear parks and other areas of strategic open space;
- The creation of additional trade to support the City Centre.

5.5 The Applicants wish to continue their detailed design work for the project with Cardiff Council and key stakeholders and will willingly engage to create a design which will meet the vision of the LDP produced by the Council and endorsed by the Local Community.